Department of Design and Construction

CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF INFRASTRUCTURE
VOLUME 1 – BID BOOKLET

TABLE OF CONTENTS

Introduction 2

Bid Submission Requirements 3

Notices to Bidders 4

- Pre Bid Questions (PBQs) 4
- NYC Contract Financing Loan Fund 4

M/WBE Notice to Prospective Contractors 5

Affirmation 13

Bid Schedule 15

Pre-Award Process 17

Project References 19

A. Contracts completed by the bidder 19

B. Contracts currently under construction by the bidder 20

C. Pending contracts not yet started by the bidder 21

Introduction

This Bid Booklet is intended to provide general information necessary for bidding on a DDC public works project and is part of the Contract Documents, as per Article 1.1 of the Standard Construction Contract.

As this contract is solicited via the PASSPort system, the bidder will be required to complete all of the PASSPort forms and questionnaires. These forms and questionnaires, along with the bidder's responses, will become part of the Bid Booklet.

Additional information on the PASSPort system can be found at the following website:
https://www1.nyc.gov/site/mocs/systems/passport-user-materials.page

Bid Submission Requirements

THE FOLLOWING MUST BE COMPLETED AND SUBMITTED FOR THE BID TO BE CONSIDERED RESPONSIVE:

1. Completed electronic bid submission in PASSPort;
    a. All required fields in PASSPort must be completed.
2. Bid security, if required.
    a. If Bid security is in a form of a bid bond, bidders must include it with their electronic PASSPort submission.
    b. If Bid security is in a form of a certified check, bidders must hand deliver the certified check.

BIDDERS ARE ADVISED THAT PAPER BID SUBMISSIONS WILL BE DEEMED NON-RESPONSIVE. BIDDERS MUST SUBMIT THEIR BIDS ELECTRONICALLY IN PASSPORT AND PROVIDE THE BID SECURITY FOR THE BID TO BE CONSIDERED RESPONSIVE.

THE FOLLOWING MAY RESULT IN THE BID BEING FOUND NON-RESPONSIVE:

1. Failure to upload required files or documents as part of a mandatory PASSPort Questionnaire response.
2. Uploading an incorrect file as part of a mandatory PASSPort Questionnaire response.

Notices to Bidders

Pre Bid Questions (PBQs)

Please be advised that PBQs must be submitted to the Agency Contact Person via PASSPort (in the RFx Discussions with buyer section) within the timeframe indicated in the PASSPort procurement.

NYC Contract Financing Loan Fund

If your business is working as a prime or subcontractor on a project with a City agency or City-funded entity, you may be eligible for a Contract Financing Loan from a participating lender coordinated with the NYC Department of Small Business Services (SBS). Loan repayment terms align with the contract payment schedule.

For more information: Call 311 or visit https://www1.nyc.gov/nycbusiness/article/contract-financing-loan-fund

M/WBE Notice to Prospective Contractors

PARTICIPATION BY MINORITY-OWNED AND WOMEN-OWNED BUSINESS ENTERPRISES IN CITY PROCUREMENT (9/2020 version)

ARTICLE I. M/WBE PROGRAM

Section 6-129 of the Administrative Code of the City of New York ("Section 6-129") establishes the program for participation in City procurement ("M/WBE Program") by minority-owned business enterprises ("MBEs") and women-owned business enterprises ("WBEs"), certified in accordance with Section 1304 of the New York City Charter. As stated in Section 6-129, the intent of the program is to address the impact of discrimination on the City's procurement process, and to promote the public interest in avoiding fraud and favoritism in the procurement process, increasing competition for City business, and lowering contract costs. The contract provisions contained herein are pursuant to Section 6-129, and the rules of the Department of Small Business Services ("DSBS") promulgated thereunder.

If this Contract is subject to the M/WBE Program established by Section 6-129, the specific requirements of MBE and/or WBE participation for this Contract are set forth in Schedule B of the Contract (entitled the "M/WBE Utilization Plan") and are detailed below. Contracts solicited through the Procurement and Sourcing Solutions Portal (PASSPort) will contain a Schedule B in the format outlined in the Schedule B – M/WBE Utilization Plan & PASSPort rider. The provisions of this notice will apply to contracts subject to the M/WBE Program established by Section 6-129 regardless of solicitation source.

The Contractor must comply with all applicable MBE and WBE requirements for this Contract.

All provisions of Section 6-129 are hereby incorporated in the Contract by reference and all terms used herein that are not defined herein shall have the meanings given such terms in Section 6-129.

References to MBEs or WBEs shall also include such businesses certified pursuant to the executive law where credit is required by section 311 of the New York City Charter or other provision of law.

Article I, Part A, below, sets forth provisions related to the participation goals for construction, standard and professional services contracts.

Article I, Part B, below, sets forth miscellaneous provisions related to the M/WBE Program.

PART A

PARTICIPATION GOALS FOR CONSTRUCTION, STANDARD

AND PROFESSIONAL SERVICES CONTRACTS OR TASK ORDERS

1. The **MBE and/or WBE Participation Goals** established for this Contract or Task Orders issued pursuant to this Contract, ("**Participation Goals**"), as applicable, are set forth on Schedule B, Part 1 to this Contract (see Page 1, Line 1 Total Participation Goals) or will be set forth on Schedule B, Part 1 to Task Orders issued pursuant to this Contract, as applicable.

The **Participation Goals** represent a percentage of the total dollar value of the Contract or Task Order, as applicable, that may be achieved by awarding subcontracts to firms certified with DSBS as MBEs and/or WBEs, and/or by crediting the participation of prime contractors and/or qualified joint ventures as provided in Section 3 below, unless the goals have been waived or modified by Agency in accordance with Section 6-129 and Part A, Sections 10 and 11 below, respectively.

2. If **Participation Goals** have been established for this Contract or Task Orders issued pursuant to this Contract, Contractor agrees or shall agree as a material term of the Contract that Contractor shall be subject to the **Participation Goals**, unless the goals are waived or modified by Agency in accordance with Section 6-129 and Part A, Sections 10 and 11 below, respectively.

3. If **Participation Goals** have been established for this Contract or Task Order issued pursuant to this Contract, a Contractor that is an MBE and/or WBE shall be permitted to count its own participation toward fulfillment of the relevant **Participation Goal**, provided that in accordance with Section 6-129 the value of Contractor's participation shall be determined by subtracting from the total value of the Contract or Task Order, as applicable, any amounts that the Contractor pays to direct subcontractors (as defined in Section 6-129(c)(13)), and provided further that a Contractor that is certified as both an MBE and a WBE may count its own participation either toward the goal for MBEs or the goal for WBEs, but not both.

A Contractor that is a qualified joint venture (as defined in Section 6-129(c)(30)) shall be permitted to count a percentage of its own participation toward fulfillment of the relevant **Participation Goal**. In accordance with Section 6-129, the value of Contractor's participation shall be determined by subtracting from the total value of the Contract or Task Order, as applicable, any amounts that Contractor pays to direct subcontractors, and then multiplying the remainder by the percentage to be applied to total profit to determine the amount to which an MBE or WBE is entitled pursuant to the joint venture agreement, provided that where a participant in a joint venture is certified as both an MBE and a WBE, such amount shall be counted either toward the goal for MBEs or the goal for WBEs, but not both.

4. A. If **Participation Goals** have been established for this Contract, a prospective contractor shall be required to submit with its bid or proposal, as applicable, a completed Schedule B, M/WBE Utilization Plan, Part 2 (see Pages1-2) indicating: (a) whether the contractor is an MBE or WBE, or qualified joint venture; (b) the percentage of work it intends to award to direct subcontractors; (c) in cases where the contractor intends to award direct subcontracts, a description of the type and dollar value of work designated for participation by MBEs and/or WBEs, and the time frames in which such work is scheduled to begin and end; as well as the name, addresses, and telephone numbers of the M/WBE subcontractors if required by the solicitation; and (d) the prospective contractor's required certification and affirmations. In the event that this M/WBE Utilization Plan indicates that the bidder or proposer, as applicable, does not intend to meet the **Participation Goals**, the bid or proposal, as applicable, shall be deemed non-responsive, unless Agency has granted the bidder or proposer, as applicable, a pre-award waiver of the **Participation Goals** in accordance with Section 6-129 and Part A, Section 10 below.

B. (i) If this Contract is for a master services agreement or other requirements type contract that will result in the issuance of Task Orders that will be individually registered ("Master Services Agreement") and is subject to M/WBE **Participation Goals**, a prospective contractor shall be required to submit with its bid or proposal, as applicable, a completed Schedule B, M/WBE Participation Requirements for Master Services Agreements That Will Require Individually Registered Task Orders, Part 2 (page 2) indicating the prospective contractor's certification and required affirmations to make all reasonable good faith efforts to meet participation goals established on each individual Task Order issued pursuant to this Contract, or if a partial waiver is obtained or such goals are modified by the Agency, to meet the modified **Participation Goals** by soliciting and obtaining the participation of certified MBE and/or WBE firms. In the event that the Schedule B indicates that the bidder or proposer, as applicable, does not intend to meet the **Participation Goals** that may be established on Task Orders issued pursuant to this Contract, the bid or proposal, as applicable, shall be deemed non-responsive.

(ii) **Participation Goals** on a Master Services Agreement will be established for individual Task Orders issued after the Master Services Agreement is awarded. If **Participation Goals** have been established on a Task Order, a contractor shall be required to submit a Schedule B – M/WBE Utilization Plan For Independently Registered Task Orders That Are Issued Pursuant to Master Services Agreements, Part 2 (see Pages 1-2) indicating: (a) whether the contractor is an MBE or WBE, or qualified joint venture; (b) the percentage of work it intends to award to direct subcontractors; (c) in cases where the contractor intends to award direct subcontracts, a description of the type and dollar value of work designated for participation by MBEs and/or WBEs, and the time frames in which such work is scheduled to begin and end; as well as the name, addresses, and telephone numbers of the M/WBE subcontractors if required by the solicitation; and (d) the prospective contractor's required certification and affirmations. The contractor must engage in good faith efforts to meet the **Participation Goals** as established for the Task Order unless Agency has granted the contractor a pre-award waiver of the **Participation Goals** in accordance with Section 6-129 and Part A, Section 10 below.

C. THE BIDDER/PROPOSER MUST COMPLETE THE SCHEDULE B INCLUDED HEREIN (SCHEDULE B, PART 2). A SCHEDULE B SUBMITTED BY THE BIDDER/PROPOSER WHICH DOES NOT INCLUDE THE VENDOR CERTIFICATION AND REQUIRED AFFIRMATIONS WILL BE DEEMED TO BE NON-RESPONSIVE, UNLESS A FULL WAIVER OF THE PARTICIPATION GOALS IS GRANTED (SCHEDULE B, PART 3). IN THE EVENT THAT THE CITY DETERMINES THAT THE BIDDER/PROPOSER HAS SUBMITTED A SCHEDULE B WHERE THE VENDOR CERTIFICATION AND REQUIRED AFFIRMATIONS ARE COMPLETED BUT OTHER ASPECTS OF THE SCHEDULE B ARE NOT COMPLETE, OR CONTAIN A COPY OR COMPUTATION ERROR THAT IS AT ODDS WITH THE VENDOR CERTIFICATION AND AFFIRMATIONS, THE BIDDER/PROPOSER WILL BE NOTIFIED BY THE AGENCY AND WILL BE GIVEN FOUR (4) CALENDAR DAYS FROM RECEIPT OF NOTIFICATION TO CURE THE SPECIFIED DEFICIENCIES AND RETURN A COMPLETED SCHEDULE B TO THE AGENCY. FAILURE TO DO SO WILL RESULT IN A DETERMINATION THAT THE BID/PROPOSAL IS NON-RESPONSIVE. RECEIPT OF NOTIFICATION IS DEFINED AS THE DATE NOTICE IS E-MAILED OR FAXED (IF THE BIDDER/PROPOSER HAS PROVIDED AN E-MAIL ADDRESS OR FAX NUMBER), OR NO LATER THAN FIVE (5) CALENDAR DAYS FROM THE DATE OF MAILING OR UPON DELIVERY, IF DELIVERED.

5. Where an **M/WBE** Utilization Plan has been submitted, the Contractor shall, within 30 days of issuance by Agency of a notice to proceed, submit a list of proposed persons or entities to which it intends to award subcontracts within the subsequent 12 months. In the case of multi-year contracts, such list shall also be submitted every year thereafter. The Agency may also require the Contractor to report periodically about the contracts awarded by its direct subcontractors to indirect subcontractors (as defined in Section 6-129(c)(22)). **PLEASE NOTE: If this Contract is a public works project subject to GML §101(5) (i.e., a contract valued at or below $3M for projects in New York City) or if the Contract is subject to a project labor agreement in accordance with Labor Law §222, and the bidder is required to identify at the time of bid submission its intended subcontractors for the Wicks trades (plumbing and gas fitting; steam heating, hot water heating, ventilating and air conditioning (HVAC); and electric wiring), the Contractor must identify all those to which it intends to award construction subcontracts for any portion of the Wicks trade work at the time of bid submission, regardless of what point in the life of the contract such subcontracts will occur. In identifying intended subcontractors in the bid submission, bidders may satisfy any Participation Goals established for this Contract by proposing one or more subcontractors that are MBEs and/or WBEs for any portion of the Wicks trade work.** In the event that the Contractor's selection of a subcontractor is disapproved, the Contractor shall have a reasonable time to propose alternate subcontractors.

6. MBE and WBE firms must be certified by DSBS in order for the Contractor to credit such firms' participation toward the attainment of the **Participation Goals**. Such certification must occur prior to the firms' commencement of work. A list of city-certified MBE and WBE firms may be obtained from the DSBS

website at www.nyc.gov/buycertified, by emailing DSBS at buyer@sbs.nyc.gov, by calling (212) 513-6451, or by visiting or writing DSBS at One Liberty Plaza, New York, New York, 10006, 11th floor. Eligible firms that have not yet been certified may contact DSBS in order to seek certification by visiting www.nyc.gov/getcertified, emailing MWBE@sbs.nyc.gov, or calling the DSBS certification helpline at (212) 513-6311. A firm that is certified as both an MBE and a WBE may be counted either toward the goal for MBEs or the goal for WBEs, but not both. No credit shall be given for participation by a graduate MBE or graduate WBE, as defined in Section 6-129(c)(20).

7. Where an **M/WBE** Utilization Plan has been submitted, the Contractor shall, with each voucher for payment, and/or periodically as Agency may require, submit statements, certified under penalty of perjury, which shall include, but not be limited to,: the total amount the Contractor paid to its direct subcontractors, and, where applicable pursuant to Section 6-129(j), the total amount direct subcontractors paid to indirect subcontractors; the names, addresses and contact numbers of each MBE or WBE hired as a subcontractor by the Contractor, and, where applicable, hired by any of the Contractor's direct subcontractors; and the dates and amounts paid to each MBE or WBE. The Contractor shall also submit, along with its voucher for final payment: the total amount it paid to subcontractors, and, where applicable pursuant to Section 6-129(j), the total amount its direct subcontractors paid directly to their indirect subcontractors; and a final list, certified under penalty of perjury, which shall include the name, address and contact information of each subcontractor that is an MBE or WBE, the work performed by, and the dates and amounts paid to each.

8. If payments made to, or work performed by, MBEs or WBEs are less than the amount specified in the Contractor's **M/WBE** Utilization Plan, Agency shall take appropriate action, in accordance with Section 6-129 and Article II below, unless the Contractor has obtained a modification of its **M/WBE** Utilization Plan in accordance with Section 6-129 and Part A, Section 11 below.

9. Where an **M/WBE** Utilization Plan has been submitted, and the Contractor requests a change order the value of which exceeds the greater of 10 percent of the Contract or Task Order, as applicable, or $500,000, Agency shall review the scope of work for the Contract or Task Order, as applicable, and the scale and types of work involved in the change order, and determine whether the **Participation Goals** should be modified.

10. Pre-award waiver of **the Participation Goals**.

(a) A bidder or proposer, or contractor with respect to a Task Order, may seek a pre-award full or partial waiver of the Participation Goals in accordance with Section 6-129, which requests that Agency change one or more **Participation Goals** on the grounds that the **Participation Goals** are unreasonable in light of the availability of certified firms to perform the services required, or by demonstrating that it has legitimate business reasons for proposing a lower level of subcontracting in its M/WBE Utilization Plan.

(b) To apply for a full or partial waiver of the **Participation Goals**, a bidder, proposer, or contractor, as applicable, must complete Part 3 of Schedule B **and submit such request no later than seven (7) calendar days prior to the date and time the bids, proposals, or Task Orders are due, in writing to the Agency by email at MWBEModification@ddc.nyc.gov**. **Full or partial waiver requests that are received later than seven (7) calendar days prior to the date and time the bids, proposals, or Task Orders are due may be rejected as untimely**. Bidders, proposers, or contractors, as applicable, who have submitted timely requests will receive an Agency response by no later than two (2) calendar days prior to the due date for bids, proposals, or Task Orders; provided, however, that if that date would fall on a weekend or holiday, an Agency response will be provided by close-of-business on the business day before such weekend or holiday date.

(c) If the Agency determines that the **Participation Goals** are unreasonable in light of the availability of certified firms to perform the services required, it shall revise the solicitation and extend the deadline for bids and proposals, or revise the Task Order, as applicable.

(d) Agency may grant a full or partial waiver of the **Participation Goals** to a bidder, proposer or contractor, as applicable, who demonstrates—before submission of the bid, proposal or Task Order, as applicable—that it has legitimate business reasons for proposing the level of

subcontracting in its **M/WBE** Utilization Plan. In making its determination, Agency shall consider factors that shall include, but not be limited to, whether the bidder, proposer or contractor, as applicable, has the capacity and the bona fide intention to perform the Contract without any subcontracting, or to perform the Contract without awarding the amount of subcontracts represented by the **Participation Goals**. In making such determination, Agency may consider whether the **M/WBE** Utilization Plan is consistent with past subcontracting practices of the bidder, proposer or contractor, as applicable, whether the bidder, proposer or contractor, as applicable, has made efforts to form a joint venture with a certified firm, and whether the bidder, proposer, or contractor, as applicable, has made good faith efforts to identify other portions of the Contract that it intends to subcontract.

11. Modification of **M/WBE** Utilization Plan. (a) A Contractor may request a modification of its **M/WBE** Utilization Plan after award of this Contract. **PLEASE NOTE: If this Contract is a public works project subject to GML §101(5) (i.e., a contract valued at or below $3M for projects in New York City) or if the Contract is subject to a project labor agreement in accordance with Labor Law §222, and the bidder is required to identify at the time of bid submission its intended subcontractors for the Wicks trades (plumbing and gas fitting; steam heating, hot water heating, ventilating and air conditioning (HVAC); and electric wiring), the Contractor may request a Modification of its M/WBE Utilization Plan as part of its bid submission.** The Agency may grant a request for Modification of a Contractor's **M/WBE** Utilization Plan if it determines that the Contractor has established, with appropriate documentary and other evidence, that it made reasonable, good faith efforts to meet the **Participation Goals**. In making such determination, Agency shall consider evidence of the following efforts, as applicable, along with any other relevant factors:

(i) The Contractor advertised opportunities to participate in the Contract, where appropriate, in general circulation media, trade and professional association publications and small business media, and publications of minority and women's business organizations;

(ii) The Contractor provided notice of specific opportunities to participate in the Contract, in a timely manner, to minority and women's business organizations;

(iii) The Contractor sent written notices, by certified mail or facsimile, in a timely manner, to advise MBEs or WBEs that their interest in the Contract was solicited;

(iv) The Contractor made efforts to identify portions of the work that could be substituted for portions originally designated for participation by MBEs and/or WBEs in the **M/WBE** Utilization Plan, and for which the Contractor claims an inability to retain MBEs or WBEs;

(v) The Contractor held meetings with MBEs and/or WBEs prior to the date their bids or proposals were due, for the purpose of explaining in detail the scope and requirements of the work for which their bids or proposals were solicited;

(vi) The Contractor made efforts to negotiate with MBEs and/or WBEs as relevant to perform specific subcontracts, or act as suppliers or service providers;

(vii) Timely written requests for assistance made by the Contractor to Agency's M/WBE liaison officer and to DSBS;

(viii) Description of how recommendations made by DSBS and Agency were acted upon and an explanation of why action upon such recommendations did not lead to the desired level of participation of MBEs and/or WBEs.

Agency's M/WBE officer shall provide written notice to the Contractor of the determination.

(b) The Agency may modify the **Participation Goals** when the scope of the work has been changed by the Agency in a manner that affects the scale and types of work that the Contractor indicated in its **M/WBE Utilization Plan** would be awarded to subcontractors.

12. If the Contractor was required to identify in its bid or proposal the MBEs and/or WBEs they intended to use in connection with the performance of the Contract or Task Order, substitutions to the identified firms may only be made with the approval of the Agency, which shall only be given when the Contractor has proposed to use a firm that would satisfy the **Participation Goals** to the same extent as the firm previously identified, unless the Agency determines that the Contractor has established, with appropriate documentary and other evidence, that it made reasonable, good faith efforts. In making such determination, the Agency shall require evidence of the efforts listed in Section 11(a) above, as applicable, along with any other relevant factors.

13. If this Contract is for an indefinite quantity of construction, standard or professional services or is a requirements type contract and the Contractor has submitted an **M/WBE** Utilization Plan and has committed to subcontract work to MBEs and/or WBEs in order to meet the **Participation Goals**, the Contractor will not be deemed in violation of the M/WBE Program requirements for this Contract with regard to any work which was intended to be subcontracted to an MBE and/or WBE to the extent that the Agency has determined that such work is not needed.

14. If **Participation Goals** have been established for this Contract or a Task Order issued pursuant to this Contract, at least once annually during the term of the Contract or Task Order, as applicable, Agency shall review the Contractor's progress toward attainment of its **M/WBE** Utilization Plan, including but not limited to, by reviewing the percentage of work the Contractor has actually awarded to MBE and/or WBE subcontractors and the payments the Contractor made to such subcontractors.

15. If **Participation Goals** have been established for this Contract or a Task Order issued pursuant to this Contract, Agency shall evaluate and assess the Contractor's performance in meeting those goals, and such evaluation and assessment shall become part of the Contractor's overall contract performance evaluation.

PART B

MISCELLANEOUS

1. The Contractor shall take notice that, if this solicitation requires the establishment of a **M/WBE** Utilization Plan, the resulting contract may be audited by DSBS to determine compliance with Section 6-129. See §6-129(e)(10). Furthermore, such resulting contract may also be examined by the City's Comptroller to assess compliance with the **M/WBE** Utilization Plan.

2. Pursuant to DSBS rules, construction contracts that include a requirement for a **M/WBE** Utilization Plan shall not be subject to the law governing Locally Based Enterprises set forth in Section 6-108.1 of the Administrative Code of the City of New York.

3. DSBS is available to assist contractors and potential contractors in determining the availability of MBEs and/or WBEs to participate as subcontractors, and in identifying opportunities that are appropriate for participation by MBEs and/or WBEs in contracts.

4. Prospective contractors are encouraged to enter into qualified joint venture agreements with MBEs and/or WBEs as defined by Section 6-129(c)(30).

5. By submitting a bid or proposal the Contractor hereby acknowledges its understanding of the M/WBE Program requirements set forth herein and the pertinent provisions of Section 6-129, and any rules promulgated thereunder, and if awarded this Contract, the Contractor hereby agrees to comply with the M/WBE Program requirements of this Contract and pertinent provisions of Section 6-129, and any rules promulgated thereunder, all of which shall be deemed to be material terms of this Contract. The Contractor hereby agrees to make all reasonable, good faith efforts to solicit and obtain the participation of MBEs and/or WBEs to meet the required **Participation Goals**.

ARTICLE II. ENFORCEMENT

1. If Agency determines that a bidder or proposer, as applicable, has, in relation to this procurement, violated Section 6-129 or the DSBS rules promulgated pursuant to Section 6-129, Agency may disqualify such bidder or proposer, as applicable, from competing for this Contract and the Agency may revoke such bidder's or proposer's prequalification status, if applicable.

2. Whenever Agency believes that the Contractor or a subcontractor is not in compliance with Section 6-129 or the DSBS rules promulgated pursuant to Section 6-129, or any provision of this Contract that implements Section 6-129, including, but not limited to any **M/WBE** Utilization Plan, Agency shall send a written notice to the Contractor describing the alleged noncompliance and offering the Contractor an opportunity to be heard. Agency shall then conduct an investigation to determine whether such Contractor or subcontractor is in compliance.

3. In the event that the Contractor has been found to have violated Section 6-129, the DSBS rules promulgated pursuant to Section 6-129, or any provision of this Contract that implements Section 6-129, including, but not limited to, any **M/WBE** Utilization Plan, Agency may determine that one of the following actions should be taken:

(a) entering into an agreement with the Contractor allowing the Contractor to cure the violation;

(b) revoking the Contractor's pre-qualification to bid or make proposals for future contracts;

(c) making a finding that the Contractor is in default of the Contract;

(d) terminating the Contract;

(e) declaring the Contractor to be in breach of Contract;

(f) withholding payment or reimbursement;

(g) determining not to renew the Contract;

(h) assessing actual and consequential damages;

(i) assessing liquidated damages or reducing fees, provided that liquidated damages may be based on amounts representing costs of delays in carrying out the purposes of the M/WBE Program, or in meeting the purposes of the Contract, the costs of meeting utilization goals through additional

procurements, the administrative costs of investigation and enforcement, or other factors set forth in the Contract;

(j) exercising rights under the Contract to procure goods, services or construction from another contractor and charge the cost of such contract to the Contractor that has been found to be in noncompliance; or

(k) taking any other appropriate remedy.

4. If an **M/WBE** Utilization Plan has been submitted, and pursuant to this Article II, Section 3, the Contractor has been found to have failed to fulfill its **Participation Goals** contained in its **M/WBE** Utilization Plan or the **Participation Goals** as modified by Agency pursuant to Article I, Part A, Section 11, Agency may assess liquidated damages in the amount of ten percent (10%) of the difference between the dollar amount of work required to be awarded to MBE and/or WBE firms to meet the **Participation Goals** and the dollar amount the Contractor actually awarded and paid, and/or credited, to MBE and/or WBE firms. In view of the difficulty of accurately ascertaining the loss which the City will suffer by reason of Contractor's failure to meet the **Participation Goals**, the foregoing amount is hereby fixed and agreed as the liquidated damages that the City will suffer by reason of such failure, and not as a penalty. Agency may deduct and retain out of any monies which may become due under this Contract the amount of any such liquidated damages; and in case the amount which may become due under this Contract shall be less than the amount of liquidated damages suffered by the City, the Contractor shall be liable to pay the difference.

5. Whenever Agency has reason to believe that an MBE and/or WBE is not qualified for certification, or is participating in a contract in a manner that does not serve a commercially useful function (as defined in Section 6-129(c)(8)), or has violated any provision of Section 6-129, Agency shall notify the Commissioner of DSBS who shall determine whether the certification of such business enterprise should be revoked.

6. Statements made in any instrument submitted to Agency pursuant to Section 6-129 shall be submitted under penalty of perjury and any false or misleading statement or omission shall be grounds for the application of any applicable criminal and/or civil penalties for perjury. The making of a false or fraudulent statement by an MBE and/or WBE in any instrument submitted pursuant to Section 6-129 shall, in addition, be grounds for revocation of its certification.

7. The Contractor's record in implementing its **M/WBE** Utilization Plan shall be a factor in the evaluation of its performance. Whenever Agency determines that a Contractor's compliance with an **M/WBE** Utilization Plan has been unsatisfactory, Agency shall, after consultation with the City Chief Procurement Officer, file an advice of caution form for inclusion in PASSPort as caution data.

Affirmation

The Bidder affirms and declares:

1. The said bidder is of lawful age and the only one interested in this bid; and no person, firm or corporation other than hereinbefore named has any interest in this bid, or in the Contract proposed to be taken.

2. By submission of this bid, each bidder and each person signing on behalf of any bidder certifies, and in the case of a joint bid each party thereto certifies as to its own organization, under penalty of perjury, that to the best of its knowledge and belief: (1) the prices in this bid have been arrived at independently without collusion, consultation, communication or agreement, for the purpose of restricting competition, as to any matter relating to such prices with any other bidder or with any competitor; (2) unless otherwise required by law, the prices quoted in this bid have not been knowingly disclosed by the bidder and will not knowingly be disclosed by the bidder prior to opening, directly or indirectly, to any other bidder or to any competitor; and (3) no attempt has been made or will be made by the bidder to induce any other person, partnership or corporation to submit or not to submit a bid for the purpose of restricting competition.

3. No councilman or other officer or employee or person whose salary is payable in whole or in part from the City Treasury is directly or indirectly interested in this bid, or in the supplies, materials, equipment, work or labor to which it relates, or in any of the profits thereof.

4. The bidder is not in arrears to the City of New York upon debt or contract or taxes, and is not a defaulter, as surety or otherwise, upon any obligation of the City of New York, and has not been declared not responsible, or disqualified, by any agency of the City of New York or State of New York, nor is there any proceeding pending relating to the responsibility or qualification of the bidder to receive public contracts except as set forth on the Affirmation included as disclosed in PASSPort.

5. The bidder hereby affirms that is has paid all applicable City income, excise and other taxes for all it has conducted business activities in New York City.

6. The bidder, as an individual, or as a member, partner, director or officer of the bidder, if the same be a firm, partnership or corporation, executes this document expressly warranting and representing that should this bid be accepted by the City and the Contract awarded to him, he and his subcontractors engaged in the performance:

   (1) will comply with the provisions of Section 6-108 of the Administrative Code of the City of New York and the non-discrimination provisions of Section 220a of the New York State Labor Law, as more expressly and in detail set forth in the Agreement; (2) will comply with Section 6-109 of the Administrative Code of the City of New York in relation to minimum wages and other stipulations as more expressly and in detail set forth in the Agreement; (3) have complied with the provisions of the aforesaid laws since their respective effective dates, and (4) will post notices to be furnished by the City, setting forth the requirements of the aforesaid laws in prominent and conspicuous places in each and every plant, factory, building and structure where employees engaged in the performance of the Contract can readily view it, and will continue to keep such notices posted until the supplies, materials and equipment, or work labor and services required to be furnished or rendered by the Contractor have been finally accepted by the City. In the event of any breach or violation of the foregoing, the Contractor may be subject to damages, liquidated or otherwise, cancellation of the Contract and suspension as a

bidder for a period of three years. (The words, "the bidder", "he", "his", and "him" where used shall mean the individual bidder, firm, partnership or corporation executing this bid).

7. Compliance Report

   The bidder, as an individual, or as a member, partner, director, or officer of the bidder, if the same be a firm, partnership, or corporation, (1) represents that his attention has been specifically drawn to Executive Order No. 50, dated April 25, 1980, on Equal Employment Compliance of the contract, and (2) warrants that he will comply with the provisions of Executive Order No. 50. The Employment Report must be submitted as part of the bid.

8. The bidder, as an individual, or as a member, partner, director, or officer of the bidder, if the same be a firm, partnership, or corporation, executes this document expressly warranting that he will comply with: (1) the provision of the contract on providing records, Chapter 8.

9. By submission of this bid, the bidder certifies that it now has and will continue to have the financial capability to fully perform the work required for this contract. Any award of this contract will be made in reliance upon such certification. Upon request therefor, the bidder will submit written verification of such financial capability in a form that is acceptable to the department.

10. In accordance with Section 165 of the State Finance Law, the bidder agrees that tropical hardwoods, as defined in Section 165 of the State Finance Law, shall not be utilized in the performance of this Contract, except as the same are permitted by the foregoing provision of law.

11. The bidder has visited and examined the site of the work and has carefully examined the Contract in the form approved by the Corporation Counsel, and will execute the Contract and perform all its items, covenants and conditions, and will provide, furnish and deliver all the work, materials, supplies, tools and appliances for all labor and materials necessary or required for the hereinafter named work, all in strict conformity with the Contract, for the prices set forth in the Bid Schedule.

12. M/WBE UTILIZATION PLAN: By signing its bid, the bidder agrees to the M/WBE Vendor Certification and Required Affirmations set forth below, unless a full waiver of the Participation Goals is granted.

    I hereby:

    1) acknowledge my understanding of the M/WBE participation requirements as set forth in this Contract and the pertinent provisions of Section 6-129 of the Administrative Code of the City of New York and the rules promulgated thereunder;

    2) affirm that the information supplied in support of the M/WBE Utilization Plan is true and correct;

    3) agree, if awarded this Contract, to comply with the M/WBE participation requirements of this Contract, the pertinent provisions of Section 6-129, and the rules promulgated thereunder, all of which shall be deemed to be material terms of this Contract;

    4) agree and affirm that it is a material term of this Contract that the Vendor will award the total dollar value of the M/WBE Participation Goals to certified MBEs and/or WBEs, unless a full waiver is obtained or such goals are modified by the Agency; and

    agree and affirm, if awarded this Contract, to make all reasonable, good faith efforts to meet the M/WBE Participation Goals, or If a partial waiver is obtained or such goals are modified by the Agency, to meet the modified Participation Goals by soliciting and obtaining the participation of certified MBE and/or WBE firms.

Bid Price

item_code	item_label	itype_label	Bid Price
bid_1	Total Bid Price (From Bid Schedule)	Required Item	157676596.40000000

FORM OF BID BOND

KNOW ALL MEN BY THESE PRESENTS. That we, PERFETTO CONTRACTING CO., INC.
152 41st Street
BROOKLYN, NY 11232

hereinafter referred to as the "Principal", and Zurich American Insurance Company
1299 Zurich Way, 10th Floor
Schaumburg, IL 60196-1056

hereinafter referred to as the "Surety" are held and firmly bound to THE CITY OF NEW YORK, hereinafter referred to as the "CITY", or to its successors and assigns in the penal sum of

Ten Percent of Amount Bid

($ 10%), Dollars lawful money of the United States, for the payment of which said sum of money well and truly to be made, we, and each of us, bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

Whereas, the Principal is about to submit (or has submitted) to the City the accompanying proposal, hereby made a part hereof, to enter into a contract in writing for

SANDRDHK/EPIN: 85025B0025; Red Hook Coastal Resiliency (RHCR) Atlantic Basin and Beard Street, Brooklyn, NY

NOW, THEREFORE, the conditions of this obligation are such that if the Principal shall not withdraw said Proposal without the consent of the City for a period of forty-five (45) days after the opening of bids and in the event of acceptance of the Principal's Proposal by the City, if the Principal shall:

(a) Within ten (10) days after notification by the City, execute in quadruplicate and deliver to the City all the executed counterparts of the Contract in the form set forth in the Contract Documents, in accordance with the proposal as accepted, and

(b) Furnish a performance bond and separate payment bond, as may be required by the City, for the faithful performance and proper fulfillment of such Contract, which bonds shall be satisfactory in all respects to the City and shall be executed by good and sufficient sureties, and

(c) In all respects perform the agreement created by the acceptance of said Proposal as provided in the Information for Bidders, bound herewith and made a part hereof, or if the City shall reject the aforesaid Proposal, then this obligation shall be null and void; otherwise to remain in full force and effect.

In the event that the Proposal of the Principal shall be accepted and the Contract be awarded to the Principal the Surety hereunder agrees subject only to the payment by the Principal of the premium therefore, if requested by the City, to write the aforementioned performance and payment bonds in the form set forth in the Contract Documents.

It is expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall in no event exceed the penal amount of this obligation as herein stated.

There shall be no liability under this bond if, in the event of the acceptance of the Principal's Proposal by the City, either a performance bond or payment bond, or both, shall not be required by the City on or before the 30th day after the date on which the City signs the Contract.

The surety, for the value received, hereby stipulates and agrees that the obligations of the Surety and its bond shall in no way be impaired or affected by any postponements of the date upon which the City will receive or open bids, or by any extensions of the time within which the City may accept the Principal's Proposal, or by any waiver by the City of any of the requirements of the Information for Bidders, and the Surety hereby waives notice of any such postponements, extensions, or waivers.

IN WITNESS WHEREOF, the Principal and the Surety have hereunto set their hands and seals and such of them as are corporations have caused their corporate seals to be hereto affixed and these presents to be signed by their proper officers the 4th day of December, 2024.

(Seal)

PERFETTO CONTRACTING CO., INC. (L.S.)
Principal

By: _____

(Seal)

Zurich American Insurance Company
Surety

By: _____
William D. Haas, Attorney-In-Fact

ACKNOWLEDGMENT OF PRINCIPAL, IF A CORPORATION

State of New York County of Kings ss:
On this 9th day of Dec., 2024, before me personally came Chez Perfetto to me known, who, being by me duly sworn, did depose and say that he/~~she~~/they resides at New York, N.Y.
that he/~~she~~/~~they~~ is the President of Perfetto Contracting Co. Inc.
the corporation described in and which executed the foregoing instrument; that he/she/they knows the seal of said corporation; that one of the seals affixed to said instrument is such seal; that it was so affixed by order of the directors of said corporation, and that he/she/they signed his name thereto by like order.

THERESA A. CICCARELLI
Notary Public - State of New York
No. 01C16372597
Qualified in Kings County
My Comm. Expires Mar. 26, 2026

Theresa A Ciccarelli

12/9/24

Notary Public

ACKNOWLEDGMENT OF PRINCIPAL, IF A PARTNERSHIP

State of _____ County of _____ ss:
On this _____ day of _____, _____, before me personally appeared _____ to me known and known to me to be one of the members of the firm of _____ described in and who executed the foregoing instrument, and he/she/they acknowledged to me that he/she/they executed the same as and for the act and deed of said firm.

_____

Notary Public

ACKNOWLEDGMENT OF PRINCIPAL, IF AN INDIVIDUAL

State of _____ County of _____ ss:
On this _____ day of _____, _____, before me personally appeared _____ to me known and known to me to be the person described in and who executed the foregoing instrument and acknowledged that he/she/they executed the same.

_____

Notary Public

AFFIX ACKNOWLEDGMENTS AND JUSTIFICATION OF SURETIES

Individual Acknowledgment

State of _____

County of_____

On this _____day of_____, 20____, before me personally came _____to me known, and known to me to be the individual in and who executed the foregoing instrument, and acknowledged to me that he/she executed the same.

My commission expires_____ _____
Notary Public

Corporation Acknowledgment

State of _____
County of _____

On the _____ day of _____, _____ before me personally came _____ _____ to me known; who being by me duly sworn, did depose and say that he/she/they reside(s) in _____ that he/she/they is (are) the _____ of the _____ , the corporation described in and which executed the above instrument; that he/she/they know(s) the seal of said corporation; that the seal affixed to said instrument is such corporate seal; that it was so affixed by authority of the board of directors of said corporation, and that he/she/they signed his/her/their name(s) thereto by like authority.

My commission expires _____ _____
Notary Public

Surety Acknowledgment

State of **New York**

County of **Westchester**

On the 4th day of **December, 2024** personally came William D. Haas to me known , who being by me duly sworn did depose and say that he/she is an Attorney-in-Fact of **Zurich American Insurance Company** and which executed the above Instrument know(s) the corporate seal of said corporation; that the seal affixed to the within instrument is such corporate seal, and that he/she/they signed the said instrument and affixed the said seal as Attorney-in-fact by authority of the Board of Directors of said corporation and by authority of this office under the standing resolution thereof.

MAUREEN A KITTRICK
NOTARY PUBLIC STATE OF NEW YORK
LIC. #01KI4986861
COMMISSION EXPIRES 09/30/2025

My commission expires _____

_____
Notary Public

ZURICH AMERICAN INSURANCE COMPANY
COLONIAL AMERICAN CASUALTY AND SURETY COMPANY
FIDELITY AND DEPOSIT COMPANY OF MARYLAND
POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS: That the ZURICH AMERICAN INSURANCE COMPANY, a corporation of the State of New York, the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, a corporation of the State of Illinois, and the FIDELITY AND DEPOSIT COMPANY OF MARYLAND a corporation of the State of Illinois (herein collectively called the "Companies"), by Robert D. Murray, Vice President, in pursuance of authority granted by Article V, Section 8, of the By-Laws of said Companies, which are set forth on the reverse side hereof and are hereby certified to be in full force and effect on the date hereof, do hereby nominate, constitute, and appoint William D. HAAS, Benedict J. TOCKARSHEWSKY, Marnie GINSBURG **of White Plains, New York,** its true and lawful agent and Attorney-in-Fact, to make, execute, seal and deliver, for, and on its behalf as surety, and as its act and deed: **any and all bonds and undertakings,** and the execution of such bonds or undertakings in pursuance of these presents, shall be as binding upon said Companies, as fully and amply, to all intents and purposes, as if they had been duly executed and acknowledged by the regularly elected officers of the ZURICH AMERICAN INSURANCE COMPANY at its office in New York, New York., the regularly elected officers of the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY at its office in Owings Mills, Maryland., and the regularly elected officers of the FIDELITY AND DEPOSIT COMPANY OF MARYLAND at its office in Owings Mills, Maryland., in their own proper persons.

,

The said Vice President does hereby certify that the extract set forth on the reverse side hereof is a true copy of Article V, Section 8, of the By-Laws of said Companies, and is now in force.

IN WITNESS WHEREOF, the said Vice-President has hereunto subscribed his/her names and affixed the Corporate Seals of the said **ZURICH AMERICAN INSURANCE COMPANY, COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, and FIDELITY AND DEPOSIT COMPANY OF MARYLAND**, this 28th day of February, A.D. 2024.



ATTEST:
ZURICH AMERICAN INSURANCE COMPANY
COLONIAL AMERICAN CASUALTY AND SURETY COMPANY
FIDELITY AND DEPOSIT COMPANY OF MARYLAND

By: Robert D. Murray
Vice President

By: Dawn E. Brown
Secretary

State of Maryland
County of Baltimore

On this 28th day of February, A.D. 2024, before the subscriber, a Notary Public of the State of Maryland, duly commissioned and qualified, **Robert D. Murray, Vice President and Dawn E. Brown, Secretary** of the Companies, to me personally known to be the individuals and officers described in and who executed the preceding instrument, and acknowledged the execution of same, and being by me duly sworn, deposeth and saith, that he/she is the said officer of the Company aforesaid, and that the seals affixed to the preceding instrument are the Corporate Seals of said Companies, and that the said Corporate Seals and the signature as such officer were duly affixed and subscribed to the said instrument by the authority and direction of the said Corporations.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my Official Seal the day and year first above written.

Genevieve M. Maison

GENEVIEVE M. MAISON
NOTARY PUBLIC
BALTIMORE COUNTY, MD
My Commission Expires JANUARY 27, 2025



Authenticity of this bond can be confirmed at bondvalidator.zurichna.com or 410-559-8790

EXTRACT FROM BY-LAWS OF THE COMPANIES

"Article V, Section 8, Attorneys-in-Fact. The Chief Executive Officer, the President, or any Executive Vice President or Vice President may, by written instrument under the attested corporate seal, appoint attorneys-in-fact with authority to execute bonds, policies, recognizances, stipulations, undertakings, or other like instruments on behalf of the Company, and may authorize any officer or any such attorney-in-fact to affix the corporate seal thereto; and may with or without cause modify of revoke any such appointment or authority at any time."

CERTIFICATE

I, the undersigned, Vice President of the ZURICH AMERICAN INSURANCE COMPANY, the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, and the FIDELITY AND DEPOSIT COMPANY OF MARYLAND, do hereby certify that the foregoing Power of Attorney is still in full force and effect on the date of this certificate; and I do further certify that Article V, Section 8, of the By-Laws of the Companies is still in force.

This Power of Attorney and Certificate may be signed by facsimile under and by authority of the following resolution of the Board of Directors of the ZURICH AMERICAN INSURANCE COMPANY at a meeting duly called and held on the 15th day of December 1998.

RESOLVED: "That the signature of the President or a Vice President and the attesting signature of a Secretary or an Assistant Secretary and the Seal of the Company may be affixed by facsimile on any Power of Attorney...Any such Power or any certificate thereof bearing such facsimile signature and seal shall be valid and binding on the Company."

This Power of Attorney and Certificate may be signed by facsimile under and by authority of the following resolution of the Board of Directors of the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY at a meeting duly called and held on the 5th day of May, 1994, and the following resolution of the Board of Directors of the FIDELITY AND DEPOSIT COMPANY OF MARYLAND at a meeting duly called and held on the 10th day of May, 1990.

RESOLVED: "That the facsimile or mechanically reproduced seal of the company and facsimile or mechanically reproduced signature of any Vice-President, Secretary, or Assistant Secretary of the Company, whether made heretofore or hereafter, wherever appearing upon a certified copy of any power of attorney issued by the Company, shall be valid and binding upon the Company with the same force and effect as though manually affixed.

IN TESTIMONY WHEREOF, I have hereunto subscribed my name and affixed the corporate seals of the said Companies, this 4th day of December, 2024.

Thomas O. McClellan
Vice President

TO REPORT A CLAIM WITH REGARD TO A SURETY BOND, PLEASE SUBMIT A COMPLETE DESCRIPTION OF THE CLAIM INCLUDING THE PRINCIPAL ON THE BOND, THE BOND NUMBER, AND YOUR CONTACT INFORMATION TO:

Zurich Surety Claims
1299 Zurich Way
Schaumburg, IL 60196-1056
reportsfclaims@zurichna.com
800-626-4577

Authenticity of this bond can be confirmed at bondvalidator.zurichna.com or 410-559-8790

ZURICH AMERICAN INSURANCE COMPANY
COMPARATIVE BALANCE SHEET
4 WORLD TRADE CENTER, 150 GREENWICH STREET, NEW YORK, NY 10007
As of December 31, 2023 and December 31, 2022

	12/31/2023	12/31/2022
Assets		
Bonds	$ 14,481,089,748	$ 15,839,158,362
Preferred Stock	-	-
Common Stock	2,484,779,919	2,692,685,899
Real Estate	1,255,336,901	1,285,882,807
Other Invested Assets	1,412,632,427	1,396,108,895
Derivatives	120,622	1,967,250
Short-term Investments	7,465	63,653,641
Receivable for securities	43,785,484	94,676,365
Cash and cash equivalents	563,619,003	325,244,481
Securities lending reinvested collateral assets	-	-
Employee Trust for Deferred Compensation Plan	165,934,623	151,410,661
Total Cash and Invested Assets	$ 20,407,306,192	$ 21,850,788,361
Premiums Receivable	$ 7,250,292,546	$ 7,103,176,588
Funds Held with Reinsurers	1,266,900	569,022
Reinsurance Recoverable	1,313,073,816	1,620,401,701
Accrued Investment Income	128,796,764	127,444,286
Federal Income Tax Recoverable	812,015,054	746,393,878
Due from Affiliates	162,808,448	141,004,670
Other Assets	652,252,690	571,499,318
Total Assets	$ 30,727,812,410	$ 32,161,277,823
Liabilities and Policyholders' Surplus		
Liabilities:		
Loss and LAE Reserves	$ 12,024,268,114	$ 12,260,610,921
Unearned Premium Reserve	4,765,091,885	4,529,888,599
Funds Held with Reinsurers	708,043,842	792,307,977
Loss In Course of Payment	2,230,946,834	2,285,499,578
Commission Reserve	207,235,278	188,064,832
Federal Income Tax Payable	-	-
Remittances and Items Unallocated	335,320,620	358,690,393
Payable to parent, subs and affiliates	550,798,074	551,050,824
Provision for Reinsurance	94,505,406	84,318,876
Ceded Reinsurance Premiums Payable	1,822,499,716	1,878,596,336
Securities Lending Collateral Liability	-	-
Other Liabilities	1,910,495,035	1,774,301,266
Total Liabilities	$ 24,649,204,805	$ 24,703,329,603
Policyholders' Surplus:		
Common Capital Stock	$ 5,000,000	$ 5,000,000
Paid-In and Contributed Surplus	4,393,771,330	4,394,142,442
Surplus Notes	-	-
Special Surplus Funds	4,237,000	3,404,000
Cumulative Unrealized Gain	83,490,440	(189,180,108)
Unassigned Surplus	1,592,108,836	3,244,581,889
Total Policyholders' Surplus	$ 6,078,607,606	$ 7,457,948,223
Total Liabilities and Policyholders' Surplus	$ 30,727,812,410	$ 32,161,277,825

I, LAURA J. LAZARCZYK, Corporate Secretary of ZURICH AMERICAN INSURANCE COMPANY do hereby certify that the foregoing statement is a correct exhibit of the assets and liabilities of the said Company, on the 31st day of December, 2023, according to the best of my information, knowledge and belief.

Laura J. Lazarczyk

Corporate Secretary

State of Illinois
County of Cook } SS:

Subscribed and sworn to, before me, a Notary Public of the State of Illinois, in the City of Schaumburg, this 15th day of March, 2024.

Notary Public

RYAN HORGAN
Official Seal
Notary Public - State of Illinois
My Commission Expires Dec 10, 2024

INTERNAL USE ONLY

(A) SPECIAL EXPERIENCE REQUIREMENTS FOR THE BIDDER:

The Special Experience Requirements set forth below apply to the bidder. Compliance with such Special Experience Requirements will be determined solely by the City prior to an award of contract. Failure to comply with the Special Experience Requirements will result in rejection of the bid as non-responsive.

The requirements in this Section (A) apply to this contract where indicated by an X (☒).

☒ The bidder must, within the last seven (7) consecutive years prior to the bid opening, have successfully completed in a timely fashion at least one (1) project similar in scope and type to the required work. Such prior project may have been performed as a prime contractor, subcontractor or sub-subcontractor.

The similar scope and type of work must include one or more of the following, which may be met by multiple projects:

- ☐ Underground construction work adjacent to underground subways or railroads
- ☐ Underground construction work adjacent to district steam systems
- ☐ Roadway, sewer, and water construction work that includes utility work (support and protect, interference work, and / or utility capital work) that exceeds 25% of the total project cost.

The Special Experience Requirements next to the boxes marked with an X (☒) below apply to the bidder. If the bidder intends to perform such work itself, it must demonstrate compliance with the Special Experience Requirements. If the bidder intends to subcontract this work, the proposed subcontractor or sub-subcontractor must demonstrate compliance with the Special Experience Requirements. The contractor, subcontractor or sub-subcontractor (hereinafter referred to as the "Entity") that will perform any specific area of work indicated by the blackened box below, may have performed the required prior project(s) as a prime contractor, subcontractor or sub-subcontractor. Once approved, no substitution will be permitted, unless the qualifications of the proposed replacement have been approved in writing in advance by the City.

☐ **Trunk Water Main Work:** The Entity that will perform the trunk water main work must, within the last seven (7) consecutive years prior to the bid opening, have successfully completed in a timely fashion at least one (1) project similar in scope and type to the required work.

☒ **Best Management Practice Work:** Best Management Practice ("BMP") Work is any item of work in the Bid Schedule that begins with the prefix "BMP". The Entity that will perform any BMP Work must, within the last five (5) consecutive years prior to the bid opening, have successfully completed in a timely fashion at least three (3) projects similar in scope and type to the required work.
For professional services in connection with BMP Work (i.e., monitoring and reporting services), the individual who will perform the required services must, within the last five (5) consecutive years prior to the bid opening, have successfully completed in a timely fashion at least three (3) projects similar in scope and type to the required work. Additional requirements are set forth below.

- ☐ The individual serving as the Restoration Specialist (Construction Monitor) must be a Registered Landscape Architect licensed by the state of New York or must have equivalent professional experience.

☐ The individual serving as the Erosion and Sediment Control Licensed/Certified Professional must be a Certified Professional in Erosion and Sediment Control (CPESC), certified by CPESC, Inc.

☐ **Micro-Tunneling/Pipe Jacking Work:** The Entity that will perform the micro-tunneling/pipe jacking work must, within the last five (5) consecutive years prior to the bid opening, have successfully completed in a timely fashion at least two (2) projects similar in scope and type to the required work.

☐ **OTHER:** _____

_____

(B) SPECIAL EXPERIENCE REQUIREMENTS FOR ENTITIES PERFORMING SPECIFIC AREAS OF WORK:

The requirements in this Section (B) apply to this contract where indicated by an X (☒).

The Special Experience Requirements set forth below apply to the Entity that will perform the specific area of work. **Compliance with such Special Experience Requirements will be determined solely by the City after an award of contract. Within two (2) weeks of award of contract, the contractor will be required to submit the qualifications of the Entity that will perform the specific area of work.** If the bidder intends to perform such work itself, it must demonstrate compliance with the Special Experience Requirements. If the bidder intends to subcontract this work, the proposed subcontractor or sub-subcontractor must demonstrate compliance with the Special Experience Requirements. Once approved, no substitution will be permitted, unless the qualifications of the proposed replacement have been approved in writing in advance by the City.

Special Experience Requirements apply to the Entity that will perform any specific area of work indicated by an X (☒). The Entity may have performed the required prior project(s) as a prime contractor, subcontractor or sub-subcontractor.

☒ **Hazmat Work:** Hazmat Work is any item of work in the Bid Schedule that begins with the prefix 8.01. The Entity that will perform any Hazmat Work must, within the last three (3) consecutive years prior to the bid opening, have successfully completed in a timely fashion at least five (5) projects similar in scope and type to the required work.

☒ **Pile, CFA Pile, and/or Mini-Pile Work:** The Entity that will perform the Pile, CFA Pile and/or Mini-Pile Work must, within the last three (3) consecutive years prior to the bid opening, have successfully completed in a timely fashion at least two (2) projects similar in scope and type to the required work.

For professional services in connection with Pile Work (i.e., engineering and inspection services), the individual who will perform the required services must be a Professional Engineer licensed by the state of New York. Such individual must also comply with the above requirements for prior projects.

☒ **Construction Report, Monitoring and Post-Construction Report, and Continuous Real-Time Monitoring For Vibrations and Movements and Post-Construction Report Work:** The Entity that will perform the Construction Report, Monitoring For Vibrations And Movements, and Post-Construction Report Work must, within the last three (3) consecutive years prior to the bid opening, have successfully completed in a timely fashion at least two (2) projects similar in scope and type to the required work.

For professional services in connection with Reporting and Monitoring Work (i.e., engineering and inspection services), the individual who will perform the required services must be a Professional Engineer licensed by the state of New York. Such individual must also comply with the above requirements for prior projects.

☐ **OTHER:** _____

_____

QUALIFICATION FORM

Hazmat Work:

Name of Contractor: Perfetto Contracting Co. Inc.

Name of Project: HD-161D - Gateway Estates

Location of Project: Elton St & Gateway Dr - Brookyn, NY

Owner or Owner's representative (Architect or Engineer) who is familiar with the work performed:

Name: NEW YORK CITY DEPARTMENT OF DESIGN AND CONSTRUCTION

Title: Bob Yueh Phone Number: 718-391-1937

Brief description of the Project completed or the Project in progress: New Utlities, including sewer, watermain, street lighting, traffic work. Building new streets for affordable housing.

Was the Project performed as a prime, a subcontractor or a sub-subcontractor: Prime

Amount of Contract, Subcontract or Sub-subcontract: $14,973,047.00

Start Date and Completion Date: 8/1/13-8/1/19

Name of Contractor: Perfetto Contracting Co. Inc.

Name of Project: SANDHW12 - Reconstruction of Rockaway Beach Boulevard

Location of Project: Between Beach 49th Street to Beach 54th Street Queens, NY

Owner or Owner's representative (Architect or Engineer) who is familiar with the work performed:

Name: NEW YORK CITY DEPARTMENT OF DESIGN AND CONSTRUCTION

Title: Donal Grainger Phone Number: 917-939-7854

Brief description of the Project completed or the Project in progress: Installation of trunk water mains, distribution water mains, traffic signals, street lighting, storm, sanitary work

Was the Project performed as a prime, a subcontractor or a sub-subcontractor: Prime

Amount of Contract, Subcontract or Sub-subcontract: 24,529,336.00

Start Date and Completion Date: 10/1/18 - 12/1/21

QUALIFICATION FORM

Hazmat Work:

Name of Contractor: Perfetto Contracting Co. Inc.

Name of Project: SANDHW13 - Reconstruction of Rockaway Beach Boulevard

Location of Project: Between Beach 88th Street and Beach 73rd Street Queens N.Y.

Owner or Owner's representative (Architect or Engineer) who is familiar with the work performed:

Name: NEW YORK CITY DEPARTMENT OF DESIGN AND CONSTRUCTION

Title: Donal Grainger Phone Number: 917-939-7854

Brief description of the Project completed or the Project in progress: Reconstruction including Installation of 3450 if 20 dia trunk, distribution water main, sewer, street lighting, traffic signals, sidewalk/traffic calming agents(median island) curb paving/pavement markings

Was the Project performed as a prime, a subcontractor or a sub-subcontractor: Prime

Amount of Contract, Subcontract or Sub-subcontract: $24,843,800.00

Start Date and Completion Date: 6/1/17 - 6/1/20

Name of Contractor: Perfetto Contracting Co. Inc.

Name of Project: HWK1048A - The Brooklyn Waterfront Greenway Section on Reconstruction

Location of Project: West Street from Quay Street to Quay Street Brooklyn, NY

Owner or Owner's representative (Architect or Engineer) who is familiar with the work performed:

Name: NEW YORK CITY DEPARTMENT OF DESIGN AND CONSTRUCTION

Title: Bob Yueh Phone Number: 718-391-1937

Brief description of the Project completed or the Project in progress: Reconstruction of New Sewer, watermain, street lighting, traffic work, full depth roadway, 13 blocks and an outfall into the River along Huron Street

Was the Project performed as a prime, a subcontractor or a sub-subcontractor: Prime

Amount of Contract, Subcontract or Sub-subcontract: $28,322,002.64

Start Date and Completion Date: 6/1/15 - 6/1/19

QUALIFICATION FORM

Hazmat Work:

Name of Contractor: Perfetto Contracting Co. Inc.

Name of Project: HWK1048C - Reconstruction of Kent Avenue

Location of Project: Clymer Street to Williamsburg West - Brookyn, NY

Owner or Owner's representative (Architect or Engineer) who is familiar with the work performed:

Name: NEW YORK CITY DEPARTMENT OF DESIGN AND CONSTRUCTION

Title: Bob Yueh Phone Number: 718-391-1937

Brief description of the Project completed or the Project in progress: Work included streetscope, medians, 3200lf of sewer, 900lf watermain, street lighting, traffic signal, 8 full blocks of roadway/sidewalk reconstruction

Was the Project performed as a prime, a subcontractor or a sub-subcontractor: Prime

Amount of Contract, Subcontract or Sub-subcontract: $14,286,269.00

Start Date and Completion Date: 5/1/18 - 8/29/21

Pile, CFA Pile, and/ or Mini-Pile Work:

Name of Contractor: Perfetto Contracting Co. Inc.

Name of Project: CONISPHA2A - Construction of Storm & Sanitary Sewers

Location of Project: Neptune Avenue - Brooklyn, NY

Owner or Owner's representative (Architect or Engineer) who is familiar with the work performed:

Name: NEW YORK CITY DEPARTMENT OF DESIGN AND CONSTRUCTION

Title: Bob Yueh Phone Number: 718-391-1937

Brief description of the Project completed or the Project in progress: Installation of storm drain, sanitary sewer main, manholes, catch basin, support of excavation for utilities, sidewalk, curb replacement, street enhancement, landscaping and lighting, etc.

Was the Project performed as a prime, a subcontractor or a sub-subcontractor: Prime

Amount of Contract, Subcontract or Sub-subcontract: $23,883,663.50

Start Date and Completion Date: 5/1/14 - 7/1/17

QUALIFICATION FORM

Pile, CFA Pile, and/ or Mini-Pile Work:

Name of Contractor: Perfetto Contracting Co. Inc.

Name of Project: SANDHW12 - Reconstruction of Rockaway Beach Boulevard

Location of Project: Between Beach 49th Street to Beach 54th Street Queens, NY

Owner or Owner's representative (Architect or Engineer) who is familiar with the work performed:

Name: NEW YORK CITY DEPARTMENT OF DESIGN AND CONSTRUCTION

Title: Donal Grainger Phone Number: 917-939-7854

Brief description of the Project completed or the Project in progress: Installation of trunk water mains, distribution water mains, traffic signals, street lighting, storm, sanitary work

Was the Project performed as a prime, a subcontractor or a sub-subcontractor: Prime

Amount of Contract, Subcontract or Sub-subcontract: $24,529,336.00

Start Date and Completion Date: 10/1/18 - 12/1/21

Construction Report, Monitoring and Post-Construction Report, and Continuous Real-Time Monitoring For Vibrations and Movements and Movements and Post-Construction Report Work

Name of Contractor: Perfetto Contracting Co. Inc.

Name of Project: HWK1048A - The Brooklyn Waterfront Greenway Section on Reconstruction

Location of Project: West Street from Eagle to Quay Street

Owner or Owner's representative (Architect or Engineer) who is familiar with the work performed:

Name: NEW YORK CITY DEPARTMENT OF DESIGN AND CONSTRUCTION

Title: Bob Yueh Phone Number: 718-391-1937

Brief description of the Project completed or the Project in progress: Reconstruction of New Sewer, watermain, street lighting, traffic work, full depth roadway, 13 blocks and an outfall into the River along Huron Street

Was the Project performed as a prime, a subcontractor or a sub-subcontractor: Prime

Amount of Contract, Subcontract or Sub-subcontract: $28,322,002.64

Start Date and Completion Date: 6/1/15 - 6/1/19

QUALIFICATION FORM

Construction Report, Monitoring and Post-Construction Report, and Continuous Real-Time Monitoring For Vibrations and Movements and Movements and Post-Construction Report Work

Name of Contractor: Perfetto Contracting Co. Inc.

Name of Project: SANDHW13 - Reconstruction of Rockaway Beach Boulevard

Location of Project: Between Beach 88th Street and Beach 73rd Street Queens N.Y.

Owner or Owner's representative (Architect or Engineer) who is familiar with the work performed:

Name: NEW YORK CITY DEPARTMENT OF DESIGN AND CONSTRUCTION

Title: Donal Grainger Phone Number: 917-939-7854

Brief description of the Project completed or the Project in progress: Reconstruction including Installation of 3450 if 20 dia trunk, dia Trunk, distribution water main, sewer, street lighting, traffic signals, sidewalk/traffic calming agents(median island) and curb paving/pavement markings

Was the Project performed as a prime, a subcontractor or a sub-subcontractor: Prime

Amount of Contract, Subcontract or Sub-subcontract: $24,843,800.00

Start Date and Completion Date: 6/1/17-6/1/20

Trunk Water Main Work:

Name of Contractor: Perfetto Contracting Co. Inc.

Name of Project: SANDHW13 - Reconstruction of Rockaway Beach Boulevard

Location of Project: Between Beach 88th Street and Beach 73rd Street Queens N.Y.

Owner or Owner's representative (Architect or Engineer) who is familiar with the work performed:

Name: NEW YORK CITY DEPARTMENT OF DESIGN AND CONSTRUCTION

Title: Donal Grainger Phone Number: 917-939-7854

Brief description of the Project completed or the Project in progress: Reconstruction including Installation of 3450 if 20 dia trunk, dia Trunk, distribution water main, sewer, street lighting, traffic signals, sidewalk/traffic calming agents(median island) and curb paving/pavement markings

Was the Project performed as a prime, a subcontractor or a sub-subcontractor: Prime

Amount of Contract, Subcontract or Sub-subcontract: $24,843,800.00

Start Date and Completion Date: 6/1/17 - 6/1/20

QUALIFICATION FORM

Best Management Practice Work:

Name of Contractor: Perfetto Contracting Co. Inc.

Name of Project: HWK1048C - Reconstruction of Kent Avenue

Location of Project: South Section of the Brooklyn Waterfront Greenway in Brooklyn, NY

Owner or Owner's representative (Architect or Engineer) who is familiar with the work performed:

Name: NEW YORK CITY DEPARTMENT OF DESIGN AND CONSTRUCTION

Title: Bob Yueh Phone Number: 718-391-1937

Brief description of the Project completed or the Project in progress: Work included streetscope medians, 3200lf of sewer, 900lf watermain, street lighting, traffic signal, 8 full blocks of roadway/sidewalk reconstruction

Was the Project performed as a prime, a subcontractor or a sub-subcontractor: Prime

Amount of Contract, Subcontract or Sub-subcontract: $14,286,269.00

Start Date and Completion Date: 5/1/18 - 8/29/21

Name of Contractor: Perfetto Contracting Co. Inc.

Name of Project: SANDHW13 - Reconstruction of Rockaway Beach Boulevard

Location of Project: Between Beach 88th Street and Beach 73rd Street

Owner or Owner's representative (Architect or Engineer) who is familiar with the work performed:

Name: NEW YORK CITY DEPARTMENT OF DESIGN AND CONSTRUCTION

Title: Donal Grainger Phone Number: 917-939-7854

Brief description of the Project completed or the Project in progress: Reconstruction including Installation of 3450 if 20 dia trunk, distribution water main, sewer, street lighting, traffic signals, sidewalk/traffic calming agents (median island) and curb paving/pavement markings

Was the Project performed as a prime, a subcontractor or a sub-subcontractor: Prime

Amount of Contract, Subcontract or Sub-subcontract: $24,843,800.00

Start Date and Completion Date: 6/1/17 - 6/1/20

QUALIFICATION FORM

Best Management Practice Work:

Name of Contractor: Perfetto Contracting Co. Inc.

Name of Project: SANDHW12 - Reconstruction of Rockaway Beach Boulevard

Location of Project: Between Beach 49th Street to Beach 54th Street Queens, NY

Owner or Owner's representative (Architect or Engineer) who is familiar with the work performed:

Name: NEW YORK CITY DEPARTMENT OF DESIGN AND CONSTRUCTION

Title: Donal Grainger Phone Number: 917-939-7854

Brief description of the Project completed or the Project in progress: Installation of trunk water mains, distribution water mains, traffic signals, street lighting, storm, sanitary work

Was the Project performed as a prime, a subcontractor or a sub-subcontractor: Prime

Amount of Contract, Subcontract or Sub-subcontract: $24,529,336.00

Start Date and Completion Date: 10/1/18 - 12/1/21

Name of Contractor: _____

Name of Project: _____

Location of Project: _____

Owner or Owner's representative (Architect or Engineer) who is familiar with the work performed:

Name: _____

Title: _____ Phone Number: _____

Brief description of the Project completed or the Project in progress: _____

_____

Was the Project performed as a prime, a subcontractor or a sub-subcontractor: _____

Amount of Contract, Subcontract or Sub-subcontract: _____

Start Date and Completion Date: _____

SAFETY QUESTIONNAIRE

The Bidder must include, with its bid, all information requested on this Safety Questionnaire. Failure to provide a completed and signed Safety Questionnaire at the time of bid opening may result in disqualification of the bid as non-responsive. This Safety Questionnaire will be reviewed as per Section V of the Safety Requirements for Construction Contracts, found in Volume 2 of the Contract.

1. Bidder Information:

Company Name: Perfetto Contracting Co.

DDC Project Number: SANDRDHK

Company Size: ☐ Ten (10) employees or less

☒ Greater than ten (10) employees

Company has previously worked for DDC: ☒ YES ☐ NO

2. Type(s) of Construction Work:

Identify the types of work that the Bidder has performed in the last three years, and the types of work that are part of this Contract.

TYPE OF WORK	LAST 3 YEARS	THIS PROJECT
General Building Construction	☐	☐
Residential Building Construction	☐	☐
Nonresidential Building Construction	☐	☐
Heavy Construction, except building	☒	☒
Highway and Street Construction	☒	☒
Heavy Construction, except highways	☐	☐
Plumbing, Heating, HVAC	☒	☒
Painting and Paper Hanging	☐	☐
Electrical Work	☒	☒
Masonry, Stonework and Plastering	☒	☒
Carpentry and Floor Work	☒	☒
Roofing, Siding, and Sheet Metal	☐	☐
Concrete Work	☒	☒
Specialty Trade Contracting	☒	☒
Asbestos Abatement		
Other (specify) _____	☐	☐

3. Experience Modification Rate:

The Experience Modification Rate (EMR) is a rating generated by the National Council of Compensation Insurance (NCCI). This rating is used to determine the contractor's premium for worker's compensation insurance. The Bidder / Contractor may obtain its EMR by contacting its insurance broker or the NCCI. If the Bidder cannot obtain its EMR, it must submit a written explanation as to why.

The Bidder must indicate its Intrastate and Interstate EMR for the past three years. [Note: For contractors with less than three years of experience, the EMR will be considered to be 1.00].

YEAR	INTRASTATE RATE	INTERSTATE RATE
2024	1.05	1.05
2023	1.0	1.0
2022	1.08	1.08

If the Intrastate and/or Interstate EMR for any of the past three years is greater than 1.00, the Bidder / Contractor must attach, to this questionnaire, a written explanation for the rating and identify what corrective action was taken to correct the situation resulting in that rating.

4. OSHA Information:

☐ **YES** ☒ **NO** **Contractor has received a willful violation issued by OSHA or a New York City Department of Buildings (NYCDOB) construction-related violation within the last three years.**

☐ **YES** ☒ **NO** **Contractor has had an incident requiring OSHA notification within 8 hours (all work-related fatalities) or an incident requiring OSHA notification within 24 hours (work-related in-patient hospitalization, amputation and all loss of an eye).**

The OSHA Form 300 "Log of Work-Related Injuries and Illnesses" and OSHA Form 300A "Summary of Work-Related Injuries and Illnesses" must be submitted for the last three years for Contractors with more than ten employees.

The Bidder / Contractor must indicate the total number of hours worked by its employees, as reflected in payroll records for the past three (3) years.

The Bidder / Contractor must submit the Incident Rate for Lost Time Injuries (the Incident Rate) for the past three (3) years. The Incident Rate is calculated in accordance with the formula set forth below. For each given year, the total number of incidents is the total number of non-fatal injuries and illnesses reported on the OSHA Form 300 and OSHA Form 300A. The 200,000 hours represents the equivalent of 100 employees working forty hours a week, fifty (50) weeks per year.

$$\text{Incident Rate} = \frac{\text{Total Number of Incidents X 200,000}}{\text{Total Number of Hours Worked by Employees}}$$

YEAR	TOTAL NUMBERS OF HOURS WORKED BY EMPLOYEES	INCIDENT RATE
2024	230,361.00	1,74
2023	297,045.50	1.35
2022	284,990.00	2.81

If the Bidder's / Contractor's Incident Rate for any of the past three years is one point higher than the Incident Rate for the type of construction it performs (listed below), the Bidder / Contractor must attach, to this questionnaire, a written explanation for the relatively high rate.

General Building Construction 8.5
Residential Building Construction 7.0
Nonresidential Building Construction..... 10.2
Heavy Construction, except building 8.7
Highway and Street Construction 9.7
Heavy Construction, except highways 8.3
Plumbing, Heating, HVAC 11.3
Painting and Paper Hanging..... 6.9
Electrical Work..... 9.5
Masonry, Stonework and Plastering..... 10.5
Carpentry and Floor Work..... 12.2
Roofing, Siding, and Sheet Metal 10.3
Concrete Work..... 8.6
Specialty Trade Contracting 8.6

5. Safety Performance on Previous DDC Project(s)

☐ YES ☒ NO Fatality or an incident requiring OSHA notification within 24 hours (work-related in-patient hospitalization, amputation and all loss of an eye) on DDC Project(s) within the last three (3) years.

DDC Project Number(s): _____, _____, _____

The Bidder hereby affirms that all the information provided in this Safety Questionnaire and all additional pages and/or attachments, if applicable, consist of accurate representations.

Date: 02/04/2025 By: Luiz De Oliveira
(Signature of Bidder: Owner, Partner, Corporate Officer)

Title: Safety Manager

Bid Schedule

The Questionnaire in the PASSPort system contains the Bid Schedule. Items listed in the Bid Schedule shall comply with the requirements of the corresponding sections of the specifications detailed in the table below. All references to the Standard Specifications, Details, Standards and Drawings shall be to the version in effect at the time of bid.

NOTES:

- "XXX" in the table below signifies any possible combination of characters and spaces.
- The table below may contain item formats which are not included in the Bid Schedule.
  Please refer to the Bid Schedule to determine which specifications apply.

Item Number Format	Applicable Specifications
4.XXX 6.XXX 7.XXX 8.XXX *(Except 8.01 XXX; see below)* 9.XXX HW-XXX	NYC Department of Transportation ("DOT") Standard Highway Specifications, as amended in the R-Pages, located in Volume 3 of 3 herein; ***AND*** NYC DOT Standard Details of Construction; ***OR,*** ***if the item is not contained within the Standard Specifications***, then see the applicable New Sections in the I-Pages, located in Volume 3 of 3 herein.
1.XXX 50.XXX through 55.XXX 60.XXX through 66.XXX 70.XXX through 79.XXX *(Except 79.11XXX; see below)* DSS XXX DSW XXX	NYC Department of Environmental Protection ("DEP") Standard Sewer and Water Main Specifications, as amended in the R-Pages and SW-Pages, located in Volume 3 of 3 herein; ***AND*** NYC DEP Specifications for Trunk Main Work; ***AND*** NYC DEP Sewer Design Standards; ***AND*** NYC DEP Water Main Standard Drawings; ***OR,*** ***if the item is not contained within the Standard Specifications,*** then see the Amendments to the Standard Sewer and Water Main Specifications in the SW-Pages, located in Volume 3 of 3 herein.
GI-XXX PM-XXX ROW XXX	New Sections in the I-Pages, located in Volume 3 of 3 herein ***AND*** NYC DEP Standards for Green Infrastructure.

Item Number Format	Applicable Specifications
UTL-XXX	Gas Cost Sharing Standard Specifications in the EP7-Pages, located in Volume 3 of 3 herein.
83X.XXX MX.XXX MP XXX NYC-XXX NYCT-XXX NYPD-XXX P XXX PK-XXX	New Sections in the I-Pages, located in Volume 3 of 3 herein.
BMP-XXX	Specifications for Construction of Best Management Practice (BMP) and Mitigation Area in the BMP-Pages, located in Volume 3 of 3 herein.
E XXX ME XXX	Specifications for the Specialty Electrical Works in the EL-Pages, located in Volume 3 of 3 herein.
SL-XXX	NYC DOT Division of Street Lighting Specifications ***AND*** NYC Division of Street Lighting Standard Drawings.
T-XXX	NYC DOT Specifications for Traffic Signals and Intelligent Transportation Systems ***AND*** NYC DOT Traffic Signal Standard Drawings.
JB XXX	Joint Bid Specifications in the JB-Pages, located in Volume 3 of 3 herein.
8.01 XXX	Specifications for Handling, Transportation and Disposal of Nonhazardous and Potentially Hazardous Contaminated Materials in the HAZ-Pages, located in Volume 3 of 3 herein.
67.XXX	Specifications for Abatement of Coal Tar Wrap Asbestos Containing Materials in the ASB-Pages, located in Volume 3 of 3 herein.
79.11XXX	Specifications for Abatement of Transit Authority Duct Insulation Asbestos Containing Materials in the ASB-Pages, located in Volume 3 of 3 herein.

Department of Design and Construction

NEW YORK CITY DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF INFRASTRUCTURE - BUREAU OF DESIGN
BID SCHEDULE

Project ID: SANDRDHK
ePIN: 85025B0025

TOTAL BID PRICE: $157,676,596.40

Col. 1	Col. 2	Col. 3	Col. 4	Col. 5	Col. 6	Col. 7	Col.8	Col.9
Seq. No	Item Number	Line Type	Item Description	Engineer's Estimate of Quantity	Unit	Unit Price	Extended Amount	Price Criteria
1	206.030100ER	Bid Item	CONDUIT EXCAVATION AND BACKFILL	318.00	C.Y.	$150.00	$47,700.00	
2	4.02 AB-R	Bid Item	ASPHALTIC CONCRETE WEARING COURSE, 1-1/2" THICK	5,723.00	S.Y.	$20.00	$114,460.00	
3	4.02 AG	Bid Item	ASPHALTIC CONCRETE WEARING COURSE, 3" THICK	57,569.00	S.Y.	$25.00	$1,439,225.00	
4	4.02 CB	Bid Item	ASPHALTIC CONCRETE MIXTURE	197.00	TONS	$300.00	$59,100.00	
5	4.04 BC	Bid Item	CONCRETE BASE FOR PAVEMENT, 7" THICK, CLASS B-32	64.00	C.Y.	$370.00	$23,680.00	
6	4.04 HE	Bid Item	CONCRETE BASE FOR PAVEMENT, 10" THICK (HIGH-EARLY STRENGTH)	11,668.00	C.Y.	$400.00	$4,667,200.00	
7	4.04 HF	Bid Item	CONCRETE BASE FOR PAVEMENT, 11" THICK (HIGH-EARLY STRENGTH)	234.00	C.Y.	$620.00	$145,080.00	
8	4.05 A	Bid Item	NON-REINFORCED CONCRETE PAVEMENT	294.00	C.Y.	$17.00	$4,998.00	
9	4.05 AX	Bid Item	HIGH-EARLY STRENGTH REINFORCED CONCRETE PAVEMENT (BUS STOPS)	103.00	C.Y.	$600.00	$61,800.00	
10	4.05 EAC	Bid Item	7” THICK EXPOSED AGGREGATE REINFORCED CONCRETE PAVEMENT	5,284.00	S.F.	$27.00	$142,668.00	
11	4.06	Bid Item	CONCRETE IN STRUCTURES, CLASS A-40	5,310.00	C.Y.	$2,800.00	$14,868,000.00	
12	4.06 SL	Bid Item	CONCRETE IN STRUCTURES, CLASS A-40; STAIRS AND LANDINGS	20.00	C.Y.	$2,400.00	$48,000.00	
13	4.08 AA	Bid Item	CONCRETE CURB (18" DEEP)	1,089.00	L.F.	$53.00	$57,717.00	
14	4.09 AG	Bid Item	STRAIGHT STEEL FACED CONCRETE CURB (28" DEEP)	19,062.00	L.F.	$120.00	$2,287,440.00	
15	4.09 BG	Bid Item	DEPRESSED STEEL FACED CONCRETE CURB (28" DEEP)	499.00	L.F.	$150.00	$74,850.00	
16	4.09 CG	Bid Item	CORNER STEEL FACED CONCRETE CURB (28" DEEP)	556.00	L.F.	$160.00	$88,960.00	
17	4.11 A	Bid Item	LIGHTWEIGHT FILL, PLACE MEASUREMENT	30,471.00	C.Y.	$100.00	$3,047,100.00	
18	4.11 AS	Bid Item	EARTH EXCAVATION FOR STRUCTURES	35,256.00	C.Y.	$80.00	$2,820,480.00	
19	4.11 CA	Bid Item	FILL, PLACE MEASUREMENT	4,173.00	C.Y.	$100.00	$417,300.00	
20	4.13 AAS	Bid Item	4" CONCRETE SIDEWALK (UNPIGMENTED)	192,781.00	S.F.	$15.00	$2,891,715.00	
21	4.13 ABX	Bid Item	4" CONCRETE SIDEWALK WITH SPECIAL SCORING (PIGMENTED)	11,345.00	S.F.	$17.00	$192,865.00	
22	4.13 BAS	Bid Item	7" CONCRETE SIDEWALK (UNPIGMENTED)	48,785.00	S.F.	$19.00	$926,915.00	
23	4.13 BRXP	Bid Item	7" REINFORCED CONCRETE SIDEWALK WITH SPECIAL SCORING (PIGMENTED)	6,691.00	S.F.	$22.00	$147,202.00	
24	4.13 DE	Bid Item	EMBEDDED PREFORMED DETECTABLE WARNING UNITS	2,649.00	S.F.	$22.00	$58,278.00	
25	4.13 X	Bid Item	SPECIAL SCORING FOR CONCRETE SIDEWALK	244,677.00	S.F.	$1.50	$367,015.50	
26	4.14	Bid Item	STEEL REINFORCEMENT BARS	1,248,321.00	LBS.	$2.00	$2,496,642.00	
27	4.15	Bid Item	TOPSOIL	6,819.00	C.Y.	$100.00	$681,900.00	
28	4.15 SS	Bid Item	STRUCTURAL SOIL FOUNDATION MATERIAL	73.00	C.Y.	$200.00	$14,600.00	
29	4.16 AA	Bid Item	TREES REMOVED (4" TO UNDER 12" CALIPER)	106.00	EACH	$560.00	$59,360.00	
30	4.16 AB	Bid Item	TREES REMOVED (12" TO UNDER 18" CALIPER)	10.00	EACH	$900.00	$9,000.00	
31	4.16 AC	Bid Item	TREES REMOVED (18" TO UNDER 24" CALIPER)	2.00	EACH	$1,200.00	$2,400.00	
32	4.16 AD	Bid Item	TREES REMOVED (24" CALIPER AND OVER)	3.00	EACH	$2,400.00	$7,200.00	
33	4.16 CA	Bid Item	TREES PLANTED, 3" TO 3-1/2" CALIPER, ALL TYPES	15.00	EACH	$1,100.00	$16,500.00	
34	4.16 CA410	Bid Item	TREES PLANTED, 3" TO 3-1/2" CALIPER, ALL TYPES, IN 4' X 10' TREE PITS	14.00	EACH	$1,500.00	$21,000.00	
35	4.16 CA510	Bid Item	TREES PLANTED, 3" TO 3-1/2" CALIPER, ALL TYPES, IN 5' X 10' TREE PITS	275.00	EACH	$1,500.00	$412,500.00	
36	4.16 STUMP	Bid Item	STUMP REMOVAL	2.00	EACH	$560.00	$1,120.00	
37	4.17 AB	Bid Item	SHRUBS PLANTED, 30" TO 36" HIGH, ALL TYPES	1,595.00	EACH	$130.00	$207,350.00	
38	4.17 APGC	Bid Item	PERENNIAL OR GROUND COVERS PLANTED, 4" POT, ALL TYPES	817.00	EACH	$13.00	$10,621.00	
39	4.17 FB	Bid Item	FLOWERING BULB, PLANTED, ALL TYPES	7,370.00	EACH	$6.00	$44,220.00	
40	4.17 OG1G	Bid Item	ORNAMENTAL GRASS PLANTED, 1 GALLON	2,302.00	GAL.	$25.00	$57,550.00	
41	4.17 PP	Bid Item	PERENNIALS PLANTED, 6" - 12" HIGH, ALL TYPES.	3,398.00	EACH	$25.00	$84,950.00	
42	4.18 A	Bid Item	MAINTENANCE TREE PRUNING (UNDER 12" CAL.)	64.00	EACH	$450.00	$28,800.00	
43	4.18 DC	Bid Item	DECOMPACT TREE OVER 6" TO 12" DBH	57.00	EACH	$420.00	$23,940.00	
44	4.19	Bid Item	SODDING	576.00	S.Y.	$14.00	$8,064.00	
45	4.20	Bid Item	SEEDING	514.00	S.Y.	$5.50	$2,827.00	
46	4.21	Bid Item	TREE CONSULTANT	610.00	P/HR	$66.00	$40,260.00	
47	4.22 B	Bid Item	PROTECTIVE TREE BARRIER, TYPE B	118.00	EACH	$470.00	$55,460.00	
48	40.0506FM	Bid Item	6” DUCTILE IRON PROCESS PIPE	412.00	L.F.	$490.00	$201,880.00	
49	40.0510FM	Bid Item	10” DUCTILE IRON PROCESS PIPE	412.00	L.F.	$560.00	$230,720.00	
50	50.21C3C024D	Bid Item	24" R.C.P. CLASS III COMBINED SEWER, ON CONCRETE CRADLE	374.00	L.F.	$680.00	$254,320.00	
51	50.21C3C030D	Bid Item	30" R.C.P. CLASS III COMBINED SEWER, ON CONCRETE CRADLE	54.00	L.F.	$1,300.00	$70,200.00	
52	50.21C3C072D	Bid Item	72" R.C.P. CLASS III COMBINED SEWER, ON CONCRETE CRADLE	125.00	L.F.	$3,100.00	$387,500.00	
53	50.21C3E024D	Bid Item	24" R.C.P. CLASS III COMBINED SEWER, ENCASED IN CONCRETE	144.00	L.F.	$980.00	$141,120.00	
54	50.21C3E030D	Bid Item	30" R.C.P. CLASS III COMBINED SEWER, ENCASED IN CONCRETE	32.00	L.F.	$1,200.00	$38,400.00	

Department of Design and Construction

NEW YORK CITY DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF INFRASTRUCTURE - BUREAU OF DESIGN
BID SCHEDULE

Project ID: SANDRDHK
ePIN: 85025B0025

TOTAL BID PRICE: **$157,676,596.40**

Col. 1	Col. 2	Col. 3	Col. 4	Col. 5	Col. 6	Col. 7	Col.8	Col.9
Seq. No	Item Number	Line Type	Item Description	Engineer's Estimate of Quantity	Unit	Unit Price	Extended Amount	Price Criteria
55	50.31CC12	Bid Item	12" E.S.V.P. COMBINED SEWER, ON CONCRETE CRADLE	1,237.00	L.F.	$530.00	$655,610.00	
56	50.31CC15	Bid Item	15" E.S.V.P. COMBINED SEWER, ON CONCRETE CRADLE	215.00	L.F.	$770.00	$165,550.00	
57	50.31CC18	Bid Item	18" E.S.V.P. COMBINED SEWER, ON CONCRETE CRADLE	448.00	L.F.	$760.00	$340,480.00	
58	50.31CE12	Bid Item	12" E.S.V.P. COMBINED SEWER, ENCASED IN CONCRETE	400.00	L.F.	$570.00	$228,000.00	
59	50.31CE15	Bid Item	15" E.S.V.P. COMBINED SEWER, ENCASED IN CONCRETE	364.00	L.F.	$660.00	$240,240.00	
60	50.31CS12	Bid Item	12" E.S.V.P. COMBINED SEWER, ON CRUSHED STONE BEDDING	336.00	L.F.	$530.00	$178,080.00	
61	50.31MC10	Bid Item	10" E.S.V.P. STORM SEWER, ON CONCRETE CRADLE	119.00	L.F.	$500.00	$59,500.00	
62	50.31MC12	Bid Item	12" E.S.V.P. STORM SEWER, ON CONCRETE CRADLE	772.00	L.F.	$450.00	$347,400.00	
63	50.31MC15	Bid Item	15" E.S.V.P. STORM SEWER, ON CONCRETE CRADLE	333.00	L.F.	$690.00	$229,770.00	
64	50.31MC18	Bid Item	18" E.S.V.P. STORM SEWER, ON CONCRETE CRADLE	21.00	L.F.	$790.00	$16,590.00	
65	50.31ME10	Bid Item	10" E.S.V.P. STORM SEWER, ENCASED IN CONCRETE	189.00	L.F.	$480.00	$90,720.00	
66	50.31ME12	Bid Item	12" E.S.V.P. STORM SEWER, ENCASED IN CONCRETE	1,005.00	L.F.	$530.00	$532,650.00	
67	50.31ME15	Bid Item	15" E.S.V.P. STORM SEWER, ENCASED IN CONCRETE	191.00	L.F.	$700.00	$133,700.00	
68	50.31ME18	Bid Item	18" E.S.V.P. STORM SEWER, ENCASED IN CONCRETE	235.00	L.F.	$780.00	$183,300.00	
69	50.31SC10	Bid Item	10" E.S.V.P. SANITARY SEWER, ON CONCRETE CRADLE	367.00	L.F.	$540.00	$198,180.00	
70	50.31SC15	Bid Item	15" E.S.V.P. SANITARY SEWER, ON CONCRETE CRADLE	100.00	L.F.	$640.00	$64,000.00	
71	50.31SE08	Bid Item	8" E.S.V.P. SANITARY SEWER, ENCASED IN CONCRETE	210.00	L.F.	$320.00	$67,200.00	
72	50.31SE12	Bid Item	12" E.S.V.P. SANITARY SEWER, ENCASED IN CONCRETE	139.00	L.F.	$550.00	$76,450.00	
73	50.72C0600DB0000	Bid Item	RECONSTRUCTION OF EXISTING 6'-0" DIAMETER CIRCULAR BRICK COMBINED SEWER USING SHOTCRETE METHOD	753.00	L.F.	$1,100.00	$828,300.00	
74	51.11G001	Bid Item	TIDE GATE CHAMBER - 72" INCLUDING EXCAVATION, MINI PILES ETC.	1.00	EACH	$2,759,000.00	$2,759,000.00	
75	51.11G003	Bid Item	TIDE GATE CHAMBER - 15" INCLUDING EXCAVATION, MINI PILES ETC.	1.00	EACH	$326,000.00	$326,000.00	
76	51.11SG01	Bid Item	SANDRDHK SLUICE GATE - 36"	1.00	EACH	$168,000.00	$168,000.00	
77	51.11SG02	Bid Item	SANDRDHK SLUICE GATE - 30 "	1.00	EACH	$156,000.00	$156,000.00	
78	51.11SG03	Bid Item	SANDRDHK SLUICE GATE - 18"	1.00	EACH	$153,000.00	$153,000.00	
79	51.11SG04	Bid Item	SLUICE GATE 15”	1.00	EACH	$151,000.00	$151,000.00	
80	51.11SG05	Bid Item	SANDRDHK SLUICE GATE -12"	2.00	EACH	$152,000.00	$304,000.00	
81	51.21S0B1000V	Bid Item	STANDARD MANHOLE TYPE B-1	53.00	EACH	$14,600.00	$773,800.00	
82	51.21S0D1000V	Bid Item	STANDARD MANHOLE ON PILES, TYPE D1	2.00	EACH	$32,100.00	$64,200.00	
83	51.22RS	Bid Item	RECONSTRUCTION OF EXISTING MANHOLE ON EXISTING SHOTCRETED SEWER	7.00	EACH	$1,400.00	$9,800.00	
84	51.23RF	Bid Item	REPLACEMENT OF EXISTING MANHOLE FRAME AND COVER	23.00	EACH	$1,500.00	$34,500.00	
85	51.41S001	Bid Item	STANDARD CATCH BASIN, TYPE 1	79.00	EACH	$15,000.00	$1,185,000.00	
86	51.41S002	Bid Item	STANDARD CATCH BASIN, TYPE 2	9.00	EACH	$15,000.00	$135,000.00	
87	51.41S003	Bid Item	STANDARD CATCH BASIN, TYPE 3	31.00	EACH	$17,500.00	$542,500.00	
88	52.11D12	Bid Item	12" DUCTILE IRON PIPE BASIN CONNECTION	2,678.00	L.F.	$500.00	$1,339,000.00	
89	52.21V06	Bid Item	6" E.S.V.P. RISER FOR HOUSE CONNECTION	100.00	V.F.	$120.00	$12,000.00	
90	52.21V08	Bid Item	8" E.S.V.P. RISER FOR HOUSE CONNECTION	100.00	V.F.	$130.00	$13,000.00	
91	52.21V10	Bid Item	10" E.S.V.P. RISER FOR HOUSE CONNECTION	100.00	V.F.	$150.00	$15,000.00	
92	52.31V06S18	Bid Item	6" E.S.V.P. SPUR FOR HOUSE CONNECTION ON 18" E.S.V.P. SANITARY SEWER	367.00	EACH	$950.00	$348,650.00	
93	52.41V06R	Bid Item	6" E.S.V.P. HOUSE CONNECTION DRAIN ON CONCRETE CRADLE (RECONNECTION)	500.00	L.F.	$130.00	$65,000.00	
94	52.41V08R	Bid Item	8" E.S.V.P. HOUSE CONNECTION DRAIN ON CONCRETE CRADLE (RECONNECTION)	500.00	L.F.	$140.00	$70,000.00	
95	53.11DR	Bid Item	TELEVISION INSPECTION AND DIGITAL AUDIO-VISUAL RECORDING OF SEWERS	1,000.00	L.F.	$25.00	$25,000.00	
96	54.12CS	Bid Item	CLEANING OF DRAINAGE STRUCTURES	10.00	C.Y.	$2,500.00	$25,000.00	
97	54.14RD	Bid Item	REMOVAL OF LARGE DEBRIS FROM SEWERS	5.00	C.Y.	$2,200.00	$11,000.00	
98	54.21PC	Bid Item	PORTLAND CEMENT (TYPE V) - INJECTION GROUTING	10.00	BAGS	$570.00	$5,700.00	
99	55.11AB	Bid Item	ABANDONING BASINS AND INLETS	61.00	EACH	$1,200.00	$73,200.00	
100	6.02 AAN	Bid Item	UNCLASSIFIED EXCAVATION	27,410.00	C.Y.	$100.00	$2,741,000.00	
101	6.02 PA	Bid Item	PNEUMATIC EXCAVATION AROUND TREES	97.00	C.Y.	$280.00	$27,160.00	
102	6.06 AA	Bid Item	GRANITE BLOCK SIDEWALK (SAND JOINTS) (FURNISH BLOCK)	136.00	S.Y.	$380.00	$51,680.00	
103	6.09 AA	Bid Item	CONCRETE HEADER (6" WIDE X 18" DEEP)	4,253.00	L.F.	$75.00	$318,975.00	

Department of Design and Construction

NEW YORK CITY DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF INFRASTRUCTURE - BUREAU OF DESIGN
BID SCHEDULE

Project ID: SANDRDHK
ePIN: 85025B0025

TOTAL BID PRICE: **$157,676,596.40**

Col. 1	Col. 2	Col. 3	Col. 4	Col. 5	Col. 6	Col. 7	Col.8	Col.9
Seq. No	Item Number	Line Type	Item Description	Engineer's Estimate of Quantity	Unit	Unit Price	Extended Amount	Price Criteria
104	6.09 AB	Bid Item	CONCRETE HEADER (8" WIDE X 18" DEEP)	1,089.00	L.F.	$46.00	$50,094.00	
105	6.11 CA	Bid Item	MANHOLES, MODIFIED (GRADE CHANGE)	1.00	EACH	$8,900.00	$8,900.00	
106	6.13 MC	Bid Item	CATCH BASINS, MODIFIED	1.00	EACH	$8,200.00	$8,200.00	
107	6.18 A26	Bid Item	STEEL BAR PICKET FENCE, 2'-6" HIGH	627.00	L.F.	$220.00	$137,940.00	
108	6.18 A40	Bid Item	STEEL BAR PICKET FENCE, 4'-0" HIGH	385.00	L.F.	$250.00	$96,250.00	
109	6.18 IFR	Bid Item	IRON FENCES AND RAILINGS	908.00	L.F.	$49.00	$44,492.00	
110	6.18 IFR4	Bid Item	4 FT HIGH IRON FENCE AND RAILING	454.00	L.F.	$350.00	$158,900.00	
111	6.18 IFR6	Bid Item	6 FT HIGH IRON FENCE AND RAILING	354.00	L.F.	$420.00	$148,680.00	
112	6.18 IFR8	Bid Item	8 FT HIGH IRON FENCE AND RAILING	100.00	L.F.	$710.00	$71,000.00	
113	6.18 IFRX	Bid Item	REMOVAL OF IRON FENCE AND RAILING	908.00	L.F.	$46.00	$41,768.00	
114	6.18 PK SF2	Bid Item	Steel Fence, 2'-6" High	145.00	L.F.	$220.00	$31,900.00	
115	6.18 PK SG2	Bid Item	SINGLE GATE FOR STEEL FENCE 2ft 6in HIGH	1.00	EACH	$6,400.00	$6,400.00	
116	6.23 AB	Bid Item	REMOVE EXISTING FIRE ALARM POST	11.00	EACH	$870.00	$9,570.00	
117	6.23 BA	Bid Item	FURNISH AND INSTALL FIRE ALARM POST AND SUBBASE IN ACCORDANCE WITH F.D. STD. DWG. #141	11.00	EACH	$4,400.00	$48,400.00	
118	6.23 XDPE	Bid Item	FURNISH AND INSTALL 4" GALVANIZED STEEL CONDUIT POLE RISER IN ACCORDANCE WITH FIRE DEPARTMENT STANDARD DRAWING #145AA OR #146	1.00	EACH	$9,300.00	$9,300.00	
119	6.25 RS	Bid Item	TEMPORARY SIGNS	21,520.00	S.F.	$1.00	$21,520.00	
120	6.26	Bid Item	TIMBER CURB	12,828.00	L.F.	$5.00	$64,140.00	
121	6.27 A	Bid Item	DEMOLITION OF STRUCTURES	220.00	C.Y.	$400.00	$88,000.00	
122	6.28 BA	Bid Item	LIGHTED TYPE III BREAKAWAY BARRICADES	9,867.00	L.F.	$2.00	$19,734.00	
123	6.30 AA	Bid Item	BEAM TYPE GUIDE RAIL	1,603.00	L.F.	$62.00	$99,386.00	
124	6.30 AR	Bid Item	REMOVE EXISTING GUIDE RAIL	1,976.00	L.F.	$12.00	$23,712.00	
125	6.34 ACTP	Bid Item	TEMPORARY CHAIN LINK FENCE, 6'-0" HIGH (WITH TOP AND BOTTOM RAILS AND POSTS MOUNTED ON STEEL PLATES)	494.00	L.F.	$56.00	$27,664.00	
126	6.35OH-1	Bid Item	RESIDENTIAL OVERHEAD DOOR	1.00	L.S.	$3,900.00	$3,900.00	
127	6.36 DR	Bid Item	STRUCTURAL REPAIR AND ADJUSTMENT OF UTILITY STRUCTURES	112.00	C.Y.	$1,300.00	$145,600.00	
128	6.40 CR	Bid Item	ENGINEER'S FIELD OFFICE (COASTAL RESILIENCY)	42.00	MONTH	$17,800.00	$747,600.00	
129	6.41	Bid Item	LINE AND GRADE SURVEYS	1.00	L.S.	$2,000,000.00	$2,000,000.00	
130	6.43 D	Bid Item	DIGITAL PHOTOGRAPHS	306.00	SETS	$28.00	$8,568.00	
131	6.44	Bid Item	THERMOPLASTIC REFLECTORIZED PAVEMENT MARKINGS (4" WIDE)	48,208.00	L.F.	$1.50	$72,312.00	
132	6.44 CST	Bid Item	COLOR SURFACE TREATMENT FOR PAVEMENTS (CST)	1,330.00	S.F.	$14.00	$18,620.00	
133	6.44 L	Bid Item	PAVEMENT MARKINGS - LETTERS AND NUMBERS	625.00	EACH	$84.00	$52,500.00	
134	6.44 S	Bid Item	PAVEMENT MARKINGS - SYMBOLS	328.00	EACH	$390.00	$127,920.00	
135	6.49	Bid Item	TEMPORARY PAVEMENT MARKINGS (4" WIDE)	9,305.00	L.F.	$0.60	$5,583.00	
136	6.50	Bid Item	CLEANING OF DRAINAGE STRUCTURES	145.00	EACH	$680.00	$98,600.00	
137	6.52 CG	Bid Item	CROSSING GUARD	12,671.00	P/HR	$160.00	$2,027,360.00	Unit price bid shall not be less than: $100.00
138	6.53	Bid Item	REMOVE EXISTING LANE MARKINGS (4" WIDE)	681.00	L.F.	$1.00	$681.00	
139	6.55	Bid Item	SAWCUTTING EXISTING PAVEMENT	20,430.00	L.F.	$2.00	$40,860.00	
140	6.59 P	Bid Item	TEMPORARY CONCRETE BARRIER	2,683.00	L.F.	$22.00	$59,026.00	
141	6.59 PF	Bid Item	TEMPORARY CONCRETE BARRIER WITH FENCE	26,322.00	L.F.	$21.00	$552,762.00	
142	6.60 B	Bid Item	FURNISH AND INSTALL ASPHALT BLOCK PAVERS	90.00	S.Y.	$260.00	$23,400.00	
143	6.67	Bid Item	SUBBASE COURSE, SELECT GRANULAR MATERIAL	11,808.00	C.Y.	$75.00	$885,600.00	
144	6.68	Bid Item	PLASTIC FILTER FABRIC	1,728.00	S.Y.	$15.00	$25,920.00	
145	6.75	Bid Item	GRINDING EXISTING ASPHALTIC CONCRETE WEARING COURSE	4,798.00	C.Y.	$100.00	$479,800.00	
146	6.77 PSR-L32G	Bid Item	PUBLIC SPACE RECEPTACLE BIN FOR LITTER, 32 GALLON	2.00	EACH	$6,900.00	$13,800.00	
147	6.82 A	Bid Item	REMOVING EXISTING TRAFFIC AND STREET NAME SIGNS	1,048.00	S.F.	$17.00	$17,816.00	
148	6.82 B	Bid Item	REMOVING EXISTING TRAFFIC AND STREET NAME SIGN POSTS	2,099.00	L.F.	$17.00	$35,683.00	
149	6.83 AB	Bid Item	FURNISHING NEW TRAFFIC SIGN POSTS	3,613.00	L.F.	$21.00	$75,873.00	
150	6.83 AR	Bid Item	FURNISHING NEW REFLECTORIZED TRAFFIC SIGNS	1,306.00	S.F.	$16.00	$20,896.00	
151	6.83 BA	Bid Item	INSTALLING TRAFFIC SIGNS	1,343.00	S.F.	$18.00	$24,174.00	
152	6.83 BB	Bid Item	INSTALLING TRAFFIC SIGN POSTS	3,612.00	L.F.	$17.00	$61,404.00	

Department of Design and Construction

NEW YORK CITY DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF INFRASTRUCTURE - BUREAU OF DESIGN
BID SCHEDULE

Project ID: SANDRDHK
ePIN: 85025B0025

TOTAL BID PRICE: **$157,676,596.40**

Col. 1	Col. 2	Col. 3	Col. 4	Col. 5	Col. 6	Col. 7	Col.8	Col.9
Seq. No	Item Number	Line Type	Item Description	Engineer's Estimate of Quantity	Unit	Unit Price	Extended Amount	Price Criteria
153	6.86 AA	Bid Item	FURNISHING NEW STREET NAME SIGNS	141.00	S.F.	$9.50	$1,339.50	
154	6.86 BA	Bid Item	INSTALLING STREET NAME SIGNS	141.00	S.F.	$17.00	$2,397.00	
155	6.87	Bid Item	PLASTIC BARRELS	10,655.00	EACH	$1.00	$10,655.00	
156	6.91	Bid Item	REFLECTIVE CRACKING MEMBRANE (18" WIDE)	7,244.00	L.F.	$3.50	$25,354.00	
157	6.94 DCB18	Bid Item	DRAIN CATCH BASIN - 18" SQUARE	5.00	EACH	$3,400.00	$17,000.00	
158	6.99	Bid Item	AUDIO AND VIDEO DOCUMENTATION SURVEY	1.00	L.S.	$100,000.00	$100,000.00	
159	60.11R516	Bid Item	FURNISHING AND DELIVERING 16-INCH DUCTILE IRON RESTRAINED JOINT PIPE (CLASS 55)	17.00	L.F.	$300.00	$5,100.00	
160	60.11R520	Bid Item	FURNISHING AND DELIVERING 20-INCH DUCTILE IRON RESTRAINED JOINT PIPE (CLASS 55)	3,577.00	L.F.	$400.00	$1,430,800.00	
161	60.11R606	Bid Item	FURNISHING AND DELIVERING 6-INCH DUCTILE IRON RESTRAINED JOINT PIPE (CLASS 56)	219.00	L.F.	$87.00	$19,053.00	
162	60.11R608	Bid Item	FURNISHING AND DELIVERING 8-INCH DUCTILE IRON RESTRAINED JOINT PIPE (CLASS 56)	3,639.00	L.F.	$120.00	$436,680.00	
163	60.11R612	Bid Item	FURNISHING AND DELIVERING 12-INCH DUCTILE IRON RESTRAINED JOINT PIPE (CLASS 56)	436.00	L.F.	$180.00	$78,480.00	
164	60.12D06	Bid Item	LAYING 6-INCH DUCTILE IRON PIPE AND FITTINGS	219.00	L.F.	$120.00	$26,280.00	
165	60.12D08	Bid Item	LAYING 8-INCH DUCTILE IRON PIPE AND FITTINGS	3,639.00	L.F.	$130.00	$473,070.00	
166	60.12D12	Bid Item	LAYING 12-INCH DUCTILE IRON PIPE AND FITTINGS	273.00	L.F.	$220.00	$60,060.00	
167	60.12D16	Bid Item	LAYING 16-INCH DUCTILE IRON PIPE AND FITTINGS	7.00	L.F.	$300.00	$2,100.00	
168	60.12D20	Bid Item	LAYING 20-INCH DUCTILE IRON PIPE AND FITTINGS	3,577.00	L.F.	$400.00	$1,430,800.00	
169	60.13M0A24	Bid Item	FURNISHING AND DELIVERING DUCTILE IRON MECHANICAL JOINT 24-INCH DIAMETER AND SMALLER FITTINGS, INCLUDING WEDGE TYPE RETAINER GLANDS	6.00	TONS	$20,100.00	$120,600.00	
170	607.4101001	Bid Item	TEMPORARY PLASTIC BARRIER FENCE	479.00	L.F.	$39.00	$18,681.00	
171	61.11DFM06	Bid Item	FURNISHING AND DELIVERING 6-INCH FLANGED-MECHANICAL JOINT DUCTILE IRON GATE VALVE COMPLETE WITH WEDGE TYPE RETAINER GLAND	27.00	EACH	$3,500.00	$94,500.00	
172	61.11DFM08	Bid Item	FURNISHING AND DELIVERING 8-INCH FLANGED-MECHANICAL JOINT DUCTILE IRON GATE VALVE COMPLETE WITH WEDGE TYPE RETAINER GLAND	19.00	EACH	$3,600.00	$68,400.00	
173	61.11DFM12	Bid Item	FURNISHING AND DELIVERING 12-INCH FLANGED-MECHANICAL JOINT DUCTILE IRON GATE VALVE COMPLETE WITH WEDGE TYPE RETAINER GLAND	10.00	EACH	$7,900.00	$79,000.00	
174	61.11DFM20	Bid Item	FURNISHING AND DELIVERING 20-INCH FLANGED-MECHANICAL JOINT DUCTILE IRON GATE VALVE COMPLETE WITH WEDGE TYPE RETAINER GLAND	3.00	EACH	$42,600.00	$127,800.00	
175	61.11TWC12	Bid Item	FURNISHING AND DELIVERING 12-INCH WET CONNECTION TAPPING VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS	1.00	EACH	$11,100.00	$11,100.00	
176	61.12DFM06	Bid Item	SETTING 6-INCH FLANGED-MECHANICAL JOINT DUCTILE IRON GATE VALVE COMPLETE WITH WEDGE TYPE RETAINER GLAND	27.00	EACH	$400.00	$10,800.00	
177	61.12DFM08	Bid Item	SETTING 8-INCH FLANGED-MECHANICAL JOINT DUCTILE IRON GATE VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS	19.00	EACH	$400.00	$7,600.00	
178	61.12DFM12	Bid Item	SETTING 12-INCH FLANGED-MECHANICAL JOINT DUCTILE IRON GATE VALVE COMPLETE WITH WEDGE TYPE RETAINER GLAND	10.00	EACH	$2,000.00	$20,000.00	
179	61.12DFM20	Bid Item	SETTING 20-INCH FLANGED-MECHANICAL JOINT DUCTILE IRON GATE VALVE COMPLETE WITH WEDGE TYPE RETAINER GLAND	3.00	EACH	$4,000.00	$12,000.00	
180	61.12TWC12	Bid Item	SETTING 12-INCH WET CONNECTION TAPPING VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS	1.00	EACH	$1,500.00	$1,500.00	
181	619.01	Bid Item	BASIC WORK ZONE TRAFFIC CONTROL	1.00	L.S.	$500,000.00	$500,000.00	
182	62.12SG	Bid Item	SETTING HYDRANTS COMPLETE WITH WEDGE TYPE RETAINER GLANDS	28.00	EACH	$1,300.00	$36,400.00	
183	62.13RH	Bid Item	REMOVING HYDRANTS	28.00	EACH	$820.00	$22,960.00	
184	62.14FS	Bid Item	FURNISHING, DELIVERING AND INSTALLING HYDRANT FENDERS	56.00	EACH	$670.00	$37,520.00	
185	64.11ST	Bid Item	WITHDRAWING AND REPLACING HOUSE SERVICES USING SMALLER THAN 1-1/2-INCH SCREW TAPS	20.00	EACH	$860.00	$17,200.00	
186	64.12ESEG	Bid Item	EXTENDING HOUSE SERVICE WATER CONNECTIONS (EQUAL TO OR GREATER THAN 3-INCH DIAMETER)	322.00	L.F.	$52.00	$16,744.00	

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BID SCHEDULE

Project ID: SANDRDHK
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TOTAL BID PRICE: $157,676,596.40

Col. 1	Col. 2	Col. 3	Col. 4	Col. 5	Col. 6	Col. 7	Col.8	Col.9
Seq. No	Item Number	Line Type	Item Description	Engineer's Estimate of Quantity	Unit	Unit Price	Extended Amount	Price Criteria
187	64.12ESLT	Bid Item	EXTENDING HOUSE SERVICE WATER CONNECTIONS (LESS THAN 3-INCH DIAMETER)	178.00	L.F.	$44.00	$7,832.00	
188	64.13WC08	Bid Item	FURNISHING, DELIVERING AND INSTALLING WET CONNECTION SLEEVE ON 8-INCH WATER MAIN PIPE WITH VARIOUS OUTLETS	60.00	EACH	$2,700.00	$162,000.00	
189	64.14A	Bid Item	REPLACEMENT OF SERVICE LINE UP TO 1 IN, UP TO 40 FT	20.00	EACH	$2,400.00	$48,000.00	
190	64.14AL	Bid Item	ADDITIONAL LENGTH OF SERVICE LINE UP TO 1 IN BEYOND 40 FT	100.00	L.F.	$130.00	$13,000.00	
191	64.14AM	Bid Item	REPLACEMENT OF SERVICE LINE UP TO 1 IN BETWEEN BUILDING CONTROL VALVE AND METER	100.00	L.F.	$11.00	$1,100.00	
192	64.14B	Bid Item	REPLACEMENT OF SERVICE LINE 1-1/4 TO 2 IN, UP TO 40 FT	20.00	EACH	$5,700.00	$114,000.00	
193	64.14BL	Bid Item	ADDITIONAL LENGTH OF SERVICE LINE 1 -1/4 TO 2 IN BEYOND 40 FT	100.00	L.F.	$130.00	$13,000.00	
194	64.14BM	Bid Item	REPLACEMENT OF SERVICE LINE 1-1/4 TO 2 IN, BETWEEN BUILDING CONTROL VALVE AND METER	100.00	L.F.	$13.00	$1,300.00	
195	64.14V	Bid Item	INSTALL NEW BUILDING CONTROL VALVE 2 IN AND UNDER	20.00	EACH	$1,100.00	$22,000.00	
196	65.21PS	Bid Item	FURNISHING AND PLACING POLYETHYLENE SLEEVE	100.00	L.F.	$2.00	$200.00	Unit price bid shall not be less than: $2.00
197	65.31FF	Bid Item	FURNISHING, DELIVERING AND PLACING FILTER FABRIC	1,999.00	S.F.	$0.10	$199.90	Unit price bid shall not be less than: $0.10
198	661.01001	Bid Item	TEMPORARY ELECTRICAL SERVICE	1.00	L.S.	$1,081,000.00	$1,081,000.00	
199	661.0100108	Bid Item	RE-ESTABLISH ELECTRICAL SERVICE	1.00	L.S.	$92,200.00	$92,200.00	
200	670.2002	Bid Item	GALVANIZED STEEL CONDUIT, 1"	165.00	L.F.	$47.00	$7,755.00	
201	670.2003	Bid Item	GALVANIZED STEEL CONDUIT, 2"	462.00	L.F.	$61.00	$28,182.00	
202	670.7002	Bid Item	SINGLE CONDUCTOR CABLE, NUMBER 2 GAGE	4,343.00	L.F.	$11.00	$47,773.00	
203	670.7005	Bid Item	SINGLE CONDUCTOR CABLE, NUMBER 8 GAGE	1,406.00	L.F.	$8.50	$11,951.00	
204	670.7501001	Bid Item	GROUNDING ROD	5.00	EACH	$4,900.00	$24,500.00	
205	670.900100ER	Bid Item	ELECTRICAL SERVICE INSTALLATION - LOAD CENTER	5.00	EACH	$27,500.00	$137,500.00	
206	680.513000M0	Bid Item	PROPERTY LINE BOX	5.00	EACH	$14,500.00	$72,500.00	
207	680.528001	Bid Item	CONDUIT, PVC SCHEDULE 80, 4"	572.00	L.F.	$31.00	$17,732.00	
208	698.05	Bid Item	FUEL PRICE ADJUSTMENT	1.00	F.S	$24,997.20	$24,997.20	Price bid shall be for the Fixed Sum of: $24,997.20
209	7.07 A	Bid Item	REMOVING EXISTING STEEL BOLLARDS	10.00	EACH	$610.00	$6,100.00	
210	7.07 BRT	Bid Item	FURNISH AND INSTALL STEEL BICYCLE RACKS	4.00	EACH	$2,000.00	$8,000.00	
211	7.07 MB2	Bid Item	MARTELLO BOLLARD, VERSION 2.0	19.00	EACH	$5,800.00	$110,200.00	
212	7.13 A	Bid Item	MAINTENANCE OF SITE	1.00	L.S.	$2,256,000.00	$2,256,000.00	
213	7.14	Bid Item	SUSTAINABLE CONSTRUCTION INCENTIVE	1.00	L.S.	$200,000.00	$200,000.00	Unit price bid shall not be less than: $200,000.00
214	7.16 D	Bid Item	TEST PITS	330.00	C.Y.	$390.00	$128,700.00	
215	7.35	Bid Item	PEDESTRIAN CHANNELIZER	61,580.00	L.F.	$2.00	$123,160.00	
216	7.50 CB2	Bid Item	CITY BENCH WITH BACK (V 2)	6.00	EACH	$7,000.00	$42,000.00	
217	7.50 CBB2	Bid Item	CITY BENCH BACKLESS (V 2)	2.00	EACH	$7,000.00	$14,000.00	
218	7.55 SS1	Bid Item	STAINLESS STEEL GUIDE RAILING AT BIKEWAY	123.00	L.F.	$310.00	$38,130.00	
219	7.88 AA	Bid Item	RODENT INFESTATION SURVEY AND MONITORING	1.00	L.S.	$100,000.00	$100,000.00	
220	7.88 AB	Bid Item	RODENT BAIT STATIONS	116.00	EACH	$65.00	$7,540.00	Unit price bid shall not be less than: $65.00
221	7.88 AC	Bid Item	BAITING OF RODENT BAIT STATIONS	116.00	EACH	$11.00	$1,276.00	Unit price bid shall not be less than: $11.00
222	7.88 AD	Bid Item	WATERBUG BAIT APPLICATIONS	28.00	BLOCK	$75.00	$2,100.00	Unit price bid shall not be less than: $75.00
223	7.96 A	Bid Item	ANTI-GRAFFITI COATING	46,966.00	S.F.	$2.50	$117,415.00	
224	73.11AB	Bid Item	ADDITIONAL BRICK MASONRY	39.00	C.Y.	$62.50	$2,437.50	Unit price bid shall not be less than: $62.50
225	73.21AC	Bid Item	ADDITIONAL CONCRETE	15.00	C.Y.	$1,000.00	$15,000.00	Unit price bid shall not be less than: $62.50
226	73.31AE0	Bid Item	ADDITIONAL EARTH EXCAVATION INCLUDING TEST PITS (ALL DEPTHS)	50.00	C.Y.	$500.00	$25,000.00	Unit price bid shall not be less than: $20.00
227	73.51AS	Bid Item	ADDITIONAL STEEL REINFORCING BARS	500.00	LBS.	$5.00	$2,500.00	Unit price bid shall not be less than: $1.00
228	73.61AT	Bid Item	ADDITIONAL STONE BALLAST	15.00	C.Y.	$261.00	$3,915.00	Unit price bid shall not be less than: $15.00
229	8.01 C1	Bid Item	HANDLING, TRANSPORTING AND DISPOSAL OF NON-HAZARDOUS CONTAMINATED SOIL	19,118.00	TONS	$87.00	$1,663,266.00	Unit price bid shall not be less than: $60.00
230	8.01 C2	Bid Item	SAMPLING AND TESTING OF CONTAMINATED/POTENTIALLY HAZARDOUS SOIL FOR DISPOSAL PURPOSES	90.00	SETS	$2,800.00	$252,000.00	Unit price bid shall not be less than: $2,799.74
231	8.01 H	Bid Item	HANDLING, TRANSPORTING AND DISPOSAL OF HAZARDOUS SOIL	3,486.00	TONS	$375.00	$1,307,250.00	Unit price bid shall not be less than: $375.00
232	8.01 S	Bid Item	HEALTH AND SAFETY	1.00	L.S.	$100,000.00	$100,000.00	Unit price bid shall not be less than: $300.00
233	8.01 W1	Bid Item	REMOVAL, TREATMENT, AND DISCHARGE/DISPOSAL OF CONTAMINATED WATER	391.00	DAY	$1,700.00	$664,700.00	Unit price bid shall not be less than: $1,700.00

Department of Design and Construction

NEW YORK CITY DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF INFRASTRUCTURE - BUREAU OF DESIGN
BID SCHEDULE

Project ID: SANDRDHK
ePIN: 85025B0025

TOTAL BID PRICE: $157,676,596.40

Col. 1	Col. 2	Col. 3	Col. 4	Col. 5	Col. 6	Col. 7	Col.8	Col.9
Seq. No	Item Number	Line Type	Item Description	Engineer's Estimate of Quantity	Unit	Unit Price	Extended Amount	Price Criteria
234	8.01 W2	Bid Item	SAMPLING AND TESTING OF CONTAMINATED WATER	358.00	SETS	$1,600.00	$572,800.00	Unit price bid shall not be less than: $1,600.00
235	8.02 A	Bid Item	SPECIAL CARE EXCAVATION AND RESTORATION FOR SIDEWALK WORK	229,500.00	S.F.	$1.00	$229,500.00	
236	8.02 B	Bid Item	SPECIAL CARE EXCAVATION AND RESTORATION FOR CURB WORK	18,933.00	L.F.	$10.00	$189,330.00	
237	8.32	Bid Item	BARK CHIP MULCH	12,222.00	S.Y.	$4.50	$54,999.00	
238	8.55 S	Bid Item	FURNISHING AND INSTALLING NEW HANDRAIL AT STAIRS	204.00	L.F.	$510.00	$104,040.00	
239	9.04 HW	Bid Item	ALLOWANCE FOR ANTI-FREEZE ADDITIVE IN CONCRETE	1.00	F.S	$168,291.30	$168,291.30	Price bid shall be for the Fixed Sum of: $168,291.30
240	9.06 HW	Bid Item	ALLOWANCE FOR DECORATIVE MESH FABRIC	1.00	F.S	$121,729.70	$121,729.70	Price bid shall be for the Fixed Sum of: $121,729.70
241	9.13 HD	Bid Item	6" HIGH-DENSITY POLYETHYLENE DRAINAGE PIPE	307.00	L.F.	$68.00	$20,876.00	
242	9.13 HD4	Bid Item	4" HIGH-DENSITY POLYETHYLENE DRAINAGE PIPE	307.00	L.F.	$68.00	$20,876.00	
243	9.60	Bid Item	UNDERPINNING	1.00	F.S	$1,114,586.80	$1,114,586.80	Price bid shall be for the Fixed Sum of: $1,114,586.80
244	9.77 FRD	Bid Item	REMOVAL AND DISPOSAL OF FLAGPOLE INCLUDING FOUNDATION	4.00	EACH	$2,100.00	$8,400.00	
245	9.77 FS	Bid Item	STEEL FLAGPOLE AND FOUNDATION	1.00	EACH	$13,300.00	$13,300.00	
246	9.95 GBS	Bid Item	GRANITE BLOCK SEATING	876.00	C.F.	$300.00	$262,800.00	
247	9.95 GSP	Bid Item	GRANITE SLAB PAVING	14.00	S.F.	$210.00	$2,940.00	
248	BMP-7.310-B	Bid Item	PLANT AND TOPSOIL SALVAGE	1.00	F.S	$6,860.00	$6,860.00	Price bid shall be for the Fixed Sum of: $6,860.00
249	GI-2.06	Bid Item	L-SHAPED EDGING	715.00	L.F.	$21.00	$15,015.00	
250	GI-2.07B1	Bid Item	¾" CLEAN OPEN GRADED STONE (TYPE B1)	193.00	C.Y.	$270.00	$52,110.00	
251	GI-2.07D1	Bid Item	2"-5" CLEAN OPEN GRADED STONE (TYPE D1)	1,141.00	C.Y.	$190.00	$216,790.00	
252	GI-2.08	Bid Item	HDPE BARRIER	7,066.00	S.F.	$5.00	$35,330.00	
253	GI-2.08L	Bid Item	IMPERMEABLE LINER	7,115.00	S.F.	$7.00	$49,805.00	
254	GI-2.09DR-NW	Bid Item	NON-WOVEN GEOTEXTILE FABRIC FOR DRAINAGE	2,598.00	S.Y.	$5.50	$14,289.00	
255	GI-2.11	Bid Item	INLET SCREEN BOX	76.00	EACH	$830.00	$63,080.00	
256	GI-2.13	Bid Item	ENGINEERED SOIL	398.00	C.Y.	$230.00	$91,540.00	
257	GI-2.16 AC9	Bid Item	DEBRIS SCREEN FOR PIPE (9" DIA.)	228.00	EACH	$96.00	$21,888.00	
258	GI-2.16 FPA	Bid Item	FULL PERFORATED HDPE PIPE (8" DIA.)	3,148.00	L.F.	$15.00	$47,220.00	
259	GI-2.16 SA	Bid Item	SOLID HDPE PIPE (8" DIA.)	787.00	L.F.	$27.00	$21,249.00	
260	GI-4.06 A	Bid Item	REINFORCED CONCRETE APRON	2,335.00	S.F.	$18.00	$42,030.00	
261	GI-4.06 CC-A	Bid Item	CONCRETE CHAMBER (TRENCH) AT INLET	76.00	EACH	$3,400.00	$258,400.00	
262	GI-4.06 CG	Bid Item	REINFORCED CONCRETE GUTTER	1,557.00	L.F.	$43.00	$66,951.00	
263	GI-4.06CT	Bid Item	5 INCH THICK CONCRETE TOP	7,623.00	S.F.	$8.50	$64,795.50	
264	GI-4.15	Bid Item	TOPSOIL (FOR TYPE D BIOSWALE)	53.00	C.Y.	$190.00	$10,070.00	
265	GI-5.10 OW	Bid Item	OBSERVATION WELL	76.00	EACH	$1,000.00	$76,000.00	
266	GI-5.35	Bid Item	SLEEVE FOR UTILITY CROSSINGS	385.00	L.F.	$42.00	$16,170.00	
267	GI-6.09T1	Bid Item	CONCRETE HEADER, TRAPEZOID-SHAPE (6" WIDE AT TOP X 15" DEEP X 9" WIDE AT BASE)	2,508.00	L.F.	$50.00	$125,400.00	
268	GI-7.01 CC	Bid Item	CLEANOUT COVER	228.00	EACH	$270.00	$61,560.00	
269	GI-7.01SG	Bid Item	STEEL GRATE	376.00	S.F.	$180.00	$67,680.00	
270	HW-900	Bid Item	ALLOWANCE FOR MAXIMUM INCENTIVE FOR EARLY COMPLETION	1.00	F.S	$1,000,000.00	$1,000,000.00	Price bid shall be for the Fixed Sum of: $1,000,000.00
271	HW-900H	Bid Item	ALLOWANCE FOR CITY WORK ACCELERATION	1.00	F.S	$1,498,835.90	$1,498,835.90	Price bid shall be for the Fixed Sum of: $1,498,835.90
272	HW-908	Bid Item	ALLOWANCE FOR EXTRA WORK DUE TO ARCHAEOLOGICAL DISCOVERIES	1.00	F.S	$100,000.00	$100,000.00	Price bid shall be for the Fixed Sum of: $100,000.00
273	PK-124 W	Bid Item	SPECIAL CATCH BASIN WITH HOOD	5.00	EACH	$9,100.00	$45,500.00	
274	PK-13D	Bid Item	TYPE K COPPER TUBING, 1" DIAMETER	44.00	L.F.	$340.00	$14,960.00	
275	PK-143-1A	Bid Item	RPZ & WATER METER WITH REMOTE - 1" DIA.	1.00	EACH	$30,900.00	$30,900.00	
276	PK-17	Bid Item	CAST IRON VALVE BOX, 5-1/4" DIAMETER	8.00	EACH	$900.00	$7,200.00	
277	PK-321A	Bid Item	DOUBLE GATE FOR STEEL FENCE 2'-6" HIGH	1.00	EACH	$11,600.00	$11,600.00	
278	PK-321B	Bid Item	7' SINGLE GATE	1.00	EACH	$7,800.00	$7,800.00	
279	PK-321C	Bid Item	DOUBLE GATE FOR STEEL FENCE 7' HIGH	1.00	EACH	$15,700.00	$15,700.00	
280	PK-637	Bid Item	BOTTLE FILLER WITH HIGH LOW FOUNTAIN BASIN	1.00	EACH	$24,300.00	$24,300.00	
281	RHCR - 6.47 PCA	Bid Item	1' DETECTABLE WARNING SURFACE PAVERS	5,771.00	S.F.	$41.00	$236,611.00	
282	RHCR - 6.94 FGD	Bid Item	FURNISH, DELIVER & INSTALL FIBERGLASS TRENCH DRAINS	141.00	L.F.	$650.00	$91,650.00	
283	RHCR- 055136S1	Bid Item	ALUMINUM STAIRS AND PLATFORM (BLOCK 612, LOT 150)	1.00	L.S.	$50,500.00	$50,500.00	

Department of Design and Construction

NEW YORK CITY DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF INFRASTRUCTURE - BUREAU OF DESIGN
BID SCHEDULE

Project ID: SANDRDHK
ePIN: 85025B0025

TOTAL BID PRICE: **$157,676,596.40**

Col. 1	Col. 2	Col. 3	Col. 4	Col. 5	Col. 6	Col. 7	Col.8	Col.9
Seq. No	Item Number	Line Type	Item Description	Engineer's Estimate of Quantity	Unit	Unit Price	Extended Amount	Price Criteria
284	RHCR 13.FLWL	Bid Item	ARCHITECTURAL CONCRETE TEXTURED FINISHES (FLOODWALLS)	72,624.00	S.F.	$25.00	$1,815,600.00	
285	RHCR 51.23NWT	Bid Item	NEW WATERTIGHT MANHOLE FRAME AND COVER INCREMENTAL COST	4.00	EACH	$6,000.00	$24,000.00	
286	RHCR 51.23RWT	Bid Item	RETRO FIT WATER TIGHT MANHOLE FRAME AND COVER INCREMENTAL COST	7.00	EACH	$7,000.00	$49,000.00	
287	RHCR 6.25 GSX	Bid Item	GSX REMOVE GREENWAY SIGNS	30.00	EACH	$110.00	$3,300.00	
288	RHCR 6.25 GS	Bid Item	GREENWAY REROUTING SIGNS	30.00	EACH	$1,200.00	$36,000.00	
289	RHCR 6.35T1P015	Bid Item	SLIDING GATE AT OCONNELL SUBSTATION (15' LONG, BLOCK 611, LOT 1)	1.00	L.S.	$7,900.00	$7,900.00	
290	RHCR 6.35T1P108	Bid Item	SLIDING GATE AT 118 BEARD STREET (108' LONG, BLOCK 604, LOT 46)	1.00	L.S.	$7,900.00	$7,900.00	
291	RHCR 6.35T1Z026	Bid Item	SLIDING GATE AT 261 CONOVER (26' LONG, BLOCK 6120, LOT 1)	1.00	L.S.	$7,900.00	$7,900.00	
292	RHCR 6.35T2A046	Bid Item	SLIDING GATE AT VERIZION PROPERTY (46' LONG, BLOCK 605, LOT 1)	1.00	L.S.	$7,900.00	$7,900.00	
293	RHCR 6.35T2A060	Bid Item	SLIDING GATE AT VERIZION PROPERTY (60' LONG, BLOCK 605, LOT 1)	1.00	L.S.	$7,900.00	$7,900.00	
294	RHCR 6.35T2Z033	Bid Item	SLIDING GATE AT 421 VAN BRUNT (33' LONG, BLOCK 612, LOT 1)	1.00	L.S.	$7,900.00	$7,900.00	
295	RHCR 618SSF14	Bid Item	STEEL SECURITY FENCE - 14 -FT HIGH	286.00	L.F.	$900.00	$257,400.00	
296	RHCR 618SSF14-PSW	Bid Item	PSW STEEL PEDESTRIAN SWING GATE -14-FT HIGH	10.00	L.F.	$1,900.00	$19,000.00	
297	RHCR 618SSF14-SW	Bid Item	STEEL SECURITY SWING GATE -14-FT HIGH	1.00	EACH	$22,200.00	$22,200.00	
298	RHCR 8.23BD-1	Bid Item	CUSTOM BULKHEAD DOOR (BLOCK 610/LOT 23)	1.00	L.S.	$8,400.00	$8,400.00	
299	RHCR 8.23RDDEG22	Bid Item	ROLLING DOOR AT 116 BEARD STREET (22' LONG, BLOCK 604, LOT 1)	1.00	EACH	$3,900.00	$3,900.00	
300	RHCR 9.18.08PLT-C	Bid Item	PILE LOAD TESTING FOR 9.625 IN. O.D. X 0.480 IN. WALL THICKNESS MICROPILE-STATIC COMPRESSION LOAD TEST	1.00	EACH	$62,100.00	$62,100.00	
301	RHCR 9.18.08PLT-L	Bid Item	PILE LOAD TESTING FOR 9.625 O.D. X 0.480IN. WALL THICKNESS MICROPILE-LATERAL LOAD TEST	1.00	EACH	$16,900.00	$16,900.00	
302	RHCR 9.18.08PLT-T	Bid Item	PILE LOAD TESTING FOR 9.625 IN. O.D. X 0.480 IN. WALL THICKNESS MICROPILE-STATIC TENSION TEST	1.00	EACH	$50,800.00	$50,800.00	
303	RHCR 9.18HG	Bid Item	13.625 IN. O.D. X 0.480 IN WALL THICKNESS MICROPILE - PLUMB	16,368.00	V.F.	$290.00	$4,746,720.00	
304	RHCR 9.18HGPLT-C	Bid Item	PILE LOAD TESTING FOR 13.625 IN. O.D. X 0.480 IN. WALL THICKNESS MICROPILE-STATIC COMPRESSION LOAD TEST	16.00	EACH	$84,700.00	$1,355,200.00	
305	RHCR 9.18HGPLT-L	Bid Item	PILE LOAD TESTING FOR 13.625 IN. O.D. X 0.480 IN. WALL THICKNESS MICROPILE-LATERAL LOAD TEST	16.00	EACH	$20,300.00	$324,800.00	
306	RHCR 9.18HGPLT-T	Bid Item	PILE LOAD TESTING FOR 13.625 IN. O.D. X 0.480 IN. WALL THICKNESS MICROPILE-STATIC TENSION TEST	16.00	EACH	$73,400.00	$1,174,400.00	
307	RHCR-10	Bid Item	AIR QUALITY MONITORING	31.00	MONTH	$14,600.00	$452,600.00	
308	RHCR-1RMS	Bid Item	REPLACE METAL STAIR WITH 4 STEPS	1.00	L.S.	$96,800.00	$96,800.00	
309	RHCR-2	Bid Item	SLURRY WALL FOR GATE	947.00	C.Y.	$750.00	$710,250.00	
310	RHCR-354913.F1	Bid Item	FLIP UP GATE 1 (20ft x 3ft)	1.00	L.S.	$651,000.00	$651,000.00	
311	RHCR-354913.F2	Bid Item	FLIP UP GATE 3 (26ft x 3ft 8in)	1.00	L.S.	$842,000.00	$842,000.00	
312	RHCR-354913.F3	Bid Item	FLIP UP GATE 4 (20 ft x 3in)	1.00	L.S.	$651,000.00	$651,000.00	
313	RHCR-354913.F4	Bid Item	FLIP UP GATE 6 (36 ft 9in x 3ft)	1.00	L.S.	$970,000.00	$970,000.00	
314	RHCR-354913.F5	Bid Item	FLIP UP GATE 7 (40ft 2in x 3ft)	1.00	L.S.	$977,000.00	$977,000.00	
315	RHCR-354913.F6	Bid Item	FLIP UP GATE 8 (18ft x 3in)	1.00	L.S.	$719,000.00	$719,000.00	
316	RHCR-354913.F7	Bid Item	FLIP UP GATE 9 (39 ft x 3ft)	1.00	L.S.	$1,058,000.00	$1,058,000.00	

Department of Design and Construction

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DIVISION OF INFRASTRUCTURE - BUREAU OF DESIGN
BID SCHEDULE

Project ID: SANDRDHK
ePIN: 85025B0025

TOTAL BID PRICE: **$157,676,596.40**

Col. 1	Col. 2	Col. 3	Col. 4	Col. 5	Col. 6	Col. 7	Col.8	Col.9
Seq. No	Item Number	Line Type	Item Description	Engineer's Estimate of Quantity	Unit	Unit Price	Extended Amount	Price Criteria
317	RHCR-354913.F8	Bid Item	FLIP UP GATE 10 (25.5 ft x 3ft)	1.00	L.S.	$824,000.00	$824,000.00	
318	RHCR-354913.P	Bid Item	FURNISH AND INSTALL HYDRAULIC POWER UNITS	1.00	L.S.	$1,000,000.00	$1,000,000.00	
319	RHCR-354913.R1	Bid Item	GATE 2 (Roller Gate)	1.00	EACH	$815,000.00	$815,000.00	
320	RHCR-354913.R2	Bid Item	GATE 5 (Roller Gate)	1.00	EACH	$815,000.00	$815,000.00	
321	RHCR-522	Bid Item	JET GROUTING	1,262.00	C.Y.	$3,000.00	$3,786,000.00	
322	RHCR-522.a	Bid Item	JET GROUTING FOR UTILITY CROSSING SEEPAGE BARRIER- ANGLED	126.00	C.Y.	$3,000.00	$378,000.00	
323	RHCR-522.ao	Bid Item	JET GROUTING FOR UTILITY CROSSING SEEPAGE BARRIER- ANGLED AND WITH OBSTRUCTION	126.00	C.Y.	$3,000.00	$378,000.00	
324	RHCR-522.TP	Bid Item	JET GROUT TEST PROGRAM	1.00	L.S.	$500,000.00	$500,000.00	
325	RHCR-552	Bid Item	PERMANENT STEEL SHEETING	194,685.00	S.F.	$41.00	$7,982,085.00	
326	RHCR-6.01 CR	Bid Item	CLEARING AND GRUBBING	4,992.00	S.Y.	$61.00	$304,512.00	
327	RHCR-6.34 AD	Bid Item	CHAIN LINK FENCE, 8'-0" HIGH	4,296.00	L.F.	$89.00	$382,344.00	
328	RHCR-6.34 ADB	Bid Item	CHAIN LINK FENCE, 8'-0" HIGH W/ BARB WIRE	1,936.00	L.F.	$100.00	$193,600.00	
329	RHCR-6.34 BD	Bid Item	CHAIN LINK FENCE GATE FOR 8'-0" HIGH FENCE	432.00	L.F.	$420.00	$181,440.00	
330	RHCR-6.34X	Bid Item	REMOVE AND DEPOSIT CHAIN LINK FENCE	5,431.00	L.F.	$18.00	$97,758.00	
331	RHCR-60.SS06	Bid Item	STEEL SLEEVE for 6-INCH NOMINAL UTILITY CONDUIT	50.00	L.F.	$750.00	$37,500.00	
332	RHCR-60.SS08	Bid Item	STEEL SLEEVE FOR 8-INCH NOMINAL UTILITY CONDUIT	50.00	L.F.	$750.00	$37,500.00	
333	RHCR-60.SS10	Bid Item	STEEL SLEEVE FOR 10-INCH NOMINAL UTILITY CONDUIT	17.00	L.F.	$750.00	$12,750.00	
334	RHCR-60.SS12	Bid Item	STEEL SLEEVE for 12-INCH NOMINAL UTILITY CONDUIT	165.00	L.F.	$750.00	$123,750.00	
335	RHCR-60.SS15	Bid Item	STEEL SLEEVE FOR 15-INCH NOMINAL UTILITY CONDUIT	50.00	L.F.	$1,100.00	$55,000.00	
336	RHCR-60.SS18	Bid Item	STEEL SLEEVE for 18-INCH NOMINAL UTILITY CONDUIT	33.00	L.F.	$1,300.00	$42,900.00	
337	RHCR-60.SS24	Bid Item	STEEL SLEEVE for 24-INCH NOMINAL UTILITY CONDUIT	33.00	L.F.	$1,800.00	$59,400.00	
338	RHCR-60.SS30	Bid Item	STEEL SLEEVE FOR 30-INCH NOMINAL UTILITY CONDUIT	17.00	L.F.	$5,700.00	$96,900.00	
339	RHCR-60.SS48	Bid Item	STEEL SLEEVE FOR 48-INCH NOMINAL UTILITY CONDUIT	17.00	L.F.	$8,300.00	$141,100.00	
340	RHCR-76.11 CR	Bid Item	PRECONSTRUCTION REPORT	1.00	L.S.	$310,000.00	$310,000.00	
341	RHCR-76.21 MR	Bid Item	MONITORING AND POST-CONSTRUCTION REPORT	1.00	L.S.	$474,000.00	$474,000.00	
342	RHCR9.18.08A	Bid Item	11.875 IN O.D X IN 0.582 IN. WALL THICKNESS MICROPILE- PLUMB	56,787.00	V.F.	$250.00	$14,196,750.00	
343	RHCR9.18.08B	Bid Item	MICROPILE INSTALLATION THROUGH EXISTING FOUNDATION	9.00	EACH	$33,700.00	$303,300.00	
344	RHCR-9.30	Bid Item	STORMWATER POLLUTION PREVENTION	1.00	L.S.	$686,000.00	$686,000.00	
345	RHCR-HW-901	Bid Item	TEMPORARY CONSTRUCTION MEASURES	1.00	L.S.	$213,000.00	$213,000.00	
346	SL-20.01.02	Bid Item	F&I FDN FOR TYPE WF 12'-0" STEEL AND TYPE FM LPs, AS PER DWG FDN-005.	4.00	EACH	$3,600.00	$14,400.00	
347	SL-20.02.02	Bid Item	F&I STANDARD TYPE ANCHOR BOLT FDN, AS PER DWG FDN-001.	103.00	EACH	$3,600.00	$370,800.00	
348	SL-21.01.03	Bid Item	INSTALL"WF" LAMPPOST	4.00	EACH	$1,300.00	$5,200.00	
349	SL-21.01.06	Bid Item	FURNISH AND INSTALL TYPE "BB" OR OTHER PEDESTRIAN LAMPPOST WITHOUT TRANSFORMER BASE, AS PER DRAWINGS H-5239 AND H-5235	123.00	EACH	$2,900.00	$356,700.00	

Department of Design and Construction

NEW YORK CITY DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF INFRASTRUCTURE - BUREAU OF DESIGN
BID SCHEDULE

Project ID: SANDRDHK
ePIN: 85025B0025

TOTAL BID PRICE: **$157,676,596.40**

Col. 1	Col. 2	Col. 3	Col. 4	Col. 5	Col. 6	Col. 7	Col.8	Col.9
Seq. No	Item Number	Line Type	Item Description	Engineer's Estimate of Quantity	Unit	Unit Price	Extended Amount	Price Criteria
350	SL-21.01.15	Bid Item	FURNISH TYPE "WF" LAMPPOST	4.00	EACH	$2,900.00	$11,600.00	
351	SL-21.03.01	Bid Item	INSTALL TYPE FABRICATED STEEL LP WITH VARIOUS SIZE ARM(S), AND TRANSFORMER BASE AS PER DWGs LP-001, LP-002, LP-004, AND LP-005.	103.00	EACH	$1,600.00	$164,800.00	
352	SL-21.03.12	Bid Item	FURNISH TYPE 8S STEEL LP W/4 ARM PLATES, TRANSFORMER BASE AS PER DWGs LP-001,LP-002,LP-004, AND LP-005. FINISH COLOR SHALL BE BLACK FEDERAL NO.27038.	103.00	EACH	$2,800.00	$288,400.00	
353	SL-21.09.08	Bid Item	RMV ALL STREET LIGHTING EQUIPMENT FROM TYPE "M-2" TRAFFIC POST (ARM(S), P.E.C., LUM.(S), SHAFT EXT., WIRING, ETC.).	2.00	EACH	$570.00	$1,140.00	
354	SL-21.09.09	Bid Item	REMOVE F.S SPUN ALUMINUM, #10, ETC LAMPPOST, WITH ARMS(S), LUMINAIRE(S), ETC., WITH ALL ATTACHMENTS, IF ANY. REMOVE PORTION OF FOUNDATION. RESTORE TO SURROUNDING CONDITIONS.	7.00	EACH	$1,300.00	$9,100.00	
355	SL-22.01.02	Bid Item	FURNISH AND INSTALL TYPE 2085 100 WATT HIGH PRESSURE SODIUM LUMINAIRE WITH 55 VOLT LAMP.	4.00	EACH	$1,500.00	$6,000.00	
356	SL-22.01.02A	Bid Item	FURNISH TYPE 2085 76 W MAX LED LUMINAIRE	4.00	EACH	$1,300.00	$5,200.00	
357	SL-22.03.01	Bid Item	INSTALL LED TYPE 40W OR 110W MAX COBRA HEAD LUM. AS PER DWG LUM-001 AND SPEC. NO. 466.	160.00	EACH	$190.00	$30,400.00	
358	SL-22.03.17	Bid Item	FURNISH 110W MAX LED COBRA HEAD LUM. AS PER DWG LUM-001 AND SPEC. NO. 466. GND WIRE INCLUDED WITH THIS ITEM.	81.00	EACH	$380.00	$30,780.00	
359	SL-22.03.18	Bid Item	FURNISH 78 W MAX LED COBRA HEAD LUM. AS PER OWG. LUM-001 AND SPEC. NO. 466. GROUND WIRE INCLUDE WITH THIS ITEM	57.00	EACH	$370.00	$21,090.00	
360	SL-22.03.19	Bid Item	FURNISH 40W MAX LED COBRA HEAD LUM. AS PER DWG LUM-001 AND SPEC. NO. 466. GND WIRE INCLUDED WITH THIS ITEM.	22.00	EACH	$370.00	$8,140.00	
361	SL-22.09.02	Bid Item	REMOVE LUMINAIRE AND CONTROL, IF ANY, OTHER THAN PARK TYPE OR LOW PRESSURE SODIUM	8.00	EACH	$79.00	$632.00	
362	SL-24.01.01	Bid Item	INSTALL 8 FT TAPERED STEEL ARM ON LP OR ON "M-2" TRAFFIC POLE SHAFT EXT. AS PER DWG ARM-001.	123.00	EACH	$780.00	$95,940.00	
363	SL-24.01.04	Bid Item	REMOVE BRACKET, LUMINAIRE AND CONTROL, IF ANY, FROM WOOD POLE	23.00	EACH	$310.00	$7,130.00	
364	SL-24.01.08	Bid Item	F&I 2 FT ALUM. ARM W/MOUNTING STRAPS ON EXISITNG 8S STEEL LPs OR ON NEW M-2 TRAFFIC POLE AS PER DWG SL-MIS-007,DETAIL C. FINISH COLOR SHALL BE BLACK FEDERAL NO.27038.	9.00	EACH	$850.00	$7,650.00	
365	SL-24.01.08A	Bid Item	FURNISH 2' ALUMINUM ARM WITH MOUNTING STRAPS ON EX. STEEL LAMPPOST, M-2 TRAFFIC POLE AND WOOD POLE AS PER DRAWING SL-MIS-007	9.00	EACH	$390.00	$3,510.00	
366	SL-24.02.01	Bid Item	FURNISH FABRICATED STEEL 7 FT SHAFT EXT. (W/4 ARM PLATES) FOR "M-2" TRAFFIC POST AS PER DWG SL-MIS-001. FINISH COLOR SHALL BE BLACK FEDERAL NO.27038..	3.00	EACH	$850.00	$2,550.00	
367	SL-24.02.06	Bid Item	INSTALL FABRICATED STEEL 7 FT SHAFT EXT. ON "M-2" TRAFFIC POST AS PER DWG SL-MIS-001.	3.00	EACH	$1,100.00	$3,300.00	
368	SL-24.02.22	Bid Item	F&I 2 FT STEEL ARM ON STEEL LP AS PER DWG ARM-006. FINISH COLOR SHALL BE BLACK FEDERAL NO.27038.	13.00	EACH	$870.00	$11,310.00	
369	SL-24.02.22A	Bid Item	FURNISH 2 FT STEEL ARM ON STEEL LAMP POST AS DWG ARM-005	13.00	EACH	$370.00	$4,810.00	
370	SL-26.01.04	Bid Item	FURNISH AND INSTALL LONG LIFE PHOTO ELECTRIC CONTROL WITH SURGE WITH SURGE PROTECTION FOR LED LIGHT AS PER SPEC# 504	123.00	EACH	$110.00	$13,530.00	
371	SL-27.01.01	Bid Item	FURNISH AND INSTALL VERTICAL ALUMINUM TAG ON A LAMPPOST, AS PER DRAWING SL-MIS-004	4.00	EACH	$290.00	$1,160.00	
372	SL-28.01.01	Bid Item	F&I COPPER WELD GND ROD AND CLAMP AS PER DWG SL-MIS-014.	1.00	EACH	$680.00	$680.00	
373	SL-29.01.01	Bid Item	FURNISH, INSTALL, MAINTAIN AND REMOVE EQUIPMENT FOR TEMPORARY LIGHTING (PYLON), AS PER DWGs REF-010_1, REF-010_2, AND REF-010_3.	33.00	EACH	$1,400.00	$46,200.00	
374	SL-33.01.01	Bid Item	F&I NO. 12 AWG XLP COPPER CABLE OR EQUAL IN CONDUIT	11,000.00	L.F.	$6.50	$71,500.00	
375	SL-33.01.02	Bid Item	F&I NO. 6 AWG XLP COPPER CABLE OR EQUAL IN CONDUIT	1,364.00	L.F.	$9.00	$12,276.00	
376	SL-33.03.01	Bid Item	F&I #6 BARE COPPER CONDUCTOR IN CONDUIT OR OVERHEAD.	240.00	L.F.	$9.00	$2,160.00	

Department of Design and Construction

NEW YORK CITY DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF INFRASTRUCTURE - BUREAU OF DESIGN
BID SCHEDULE

Project ID: SANDRDHK
ePIN: 85025B0025

TOTAL BID PRICE: **$157,676,596.40**

Col. 1	Col. 2	Col. 3	Col. 4	Col. 5	Col. 6	Col. 7	Col.8	Col.9
Seq. No	Item Number	Line Type	Item Description	Engineer's Estimate of Quantity	Unit	Unit Price	Extended Amount	Price Criteria
377	SL-35.03.03	Bid Item	FURNISH AND INSTALL 1-1/2" HOT DIPPED GALVANIZED STEEL CONDUIT IN UNPAVED AREA	50.00	L.F.	$53.00	$2,650.00	
378	SL-35.03.04	Bid Item	FURNISH AND INSTALL 2" HOT DIPPED GALVANIZED STEEL CONDUIT IN UNPAVED AREA	190.00	L.F.	$61.00	$11,590.00	
379	SL-37.05.08	Bid Item	FURNISH AND INSTALL TYPE 1812 ROADWAY CONCRETE BOX WITH CAST IRON FRAME AND COVER WITH TAMPER PROOF BOLTS AS PER DWG J-3179B.	4.00	EACH	$5,000.00	$20,000.00	
380	SL-37.05.10	Bid Item	F&I TYPE 3018 ROADWAY CONCRETE BOX WITH CAST IRON FRAME AND COVER WITH TAMPER PROOF BOLTS AS PER DWGs BOX-001 AND BOX 002	1.00	EACH	$6,500.00	$6,500.00	
381	T-1.1	Bid Item	INSTALL TYPE "S" OR "T" FOUNDATION	10.00	EACH	$4,200.00	$42,000.00	
382	T-1.18	Bid Item	REMOVE TYPE "A", "B", "S" OR "T" SERIES FOUNDATION	7.00	EACH	$1,300.00	$9,100.00	
383	T-1.20	Bid Item	REMOVE TYPE "M" SERIES FOUNDATION	2.00	EACH	$670.00	$1,340.00	
384	T-1.35	Bid Item	FURNISH AND INSTALL ONE TYPE ACCESSIBLE PEDESTRIAN SIGNAL (APS) FOUNDATION	20.00	EACH	$4,400.00	$88,000.00	
385	T-1.6	Bid Item	INSTALL TYPE "M2-5T" FOUNDATION	4.00	EACH	$4,900.00	$19,600.00	
386	T-2.1	Bid Item	INSTALL TYPE "S-1" OR "T-1" SERIES POST	9.00	EACH	$630.00	$5,670.00	
387	T-2.24	Bid Item	REMOVE TYPE "M" SERIES POST	3.00	EACH	$1,600.00	$4,800.00	
388	T-2.28	Bid Item	REMOVE MAST ARM FROM ANY POST	3.00	EACH	$310.00	$930.00	
389	T-2.4	Bid Item	INSTALL ONE TYPE "M-2A" POLE WITH TRAFFIC SIGNAL MAST ARM ASSEMBLY	3.00	EACH	$1,900.00	$5,700.00	
390	T-2.45	Bid Item	INSTALL FIVE FOOT TALL GALVANIZED STEEL ACCESSIBLE PEDESTRIAN SIGNAL (APS) POLE	20.00	EACH	$950.00	$19,000.00	
391	T-2.6	Bid Item	INSTALL 5 FOOT MAST ARM EXTENSION W/CUSTOM FINISH	5.00	EACH	$470.00	$2,350.00	
392	T-20020	Bid Item	a) FURNISH 3/4" ANCHOR BOLT ASSEMBLIES FOR S-1 (EACH) (3 REQUIRED PER POST)	30.00	EACH	$25.00	$750.00	
393	T-20220	Bid Item	c) FURNISH 1-1/4" ANCHOR BOLT ASSEMBLIES FOR M-2 (EACH) (4 REQUIRED PER POST)	12.00	EACH	$110.00	$1,320.00	
394	T-3.21	Bid Item	REMOVE PEDESTRIAN SIGNAL OR SIGN UNIT OR OTHER ILLUMINATED SIGNS FROM ANY POST	3.00	EACH	$380.00	$1,140.00	
395	T-3.6	Bid Item	INSTALL PEDESTRIAN SIGNAL ON ANY TYPE POST	20.00	EACH	$480.00	$9,600.00	
396	T-5.2	Bid Item	FURNISH AND INSTALL 2" RIGID UNDERGROUND CONDUIT IN PAVED ROADWAY	429.00	L.F.	$120.00	$51,480.00	
397	T-5.26	Bid Item	FURNISH AND INSTALL 2" RIGID CONDUIT ON ANY OTHER STRUCTURE	107.00	L.F.	$110.00	$11,770.00	
398	T-5.3	Bid Item	FURNISH AND INSTALL 2" RIGID UNDERGROUND CONDUIT IN PAVED SIDEWALK	179.00	L.F.	$130.00	$23,270.00	
399	T-60000B	Bid Item	FURNISH 2 c # 10B (BREAKDOWN = 2#10 WITH 3RD WIRE FOR GROUNDING).	715.00	L.F.	$3.00	$2,145.00	
400	T-60040	Bid Item	c) 7 CONDUCTOR, 14 A.W.G.	715.00	L.F.	$3.00	$2,145.00	
401	JB-FS-CE	Bid Item	CON EDISON JB FIXED SUM	1.00	F.S	N/A	$1,170,560.00	**Price bid shall be for the Fixed Sum of: $1,170,560.00**
402	JB-FS-NG	Bid Item	NATIONAL GRID JB FIXED SUM	1.00	F.S	N/A	$777,184.20	**Price bid shall be for the Fixed Sum of: $777,184.20**
403	JB-FS-VZ	Bid Item	ECS-VERIZON JB FIXED SUM	1.00	F.S	N/A	$2,743,666.40	**Price bid shall be for the Fixed Sum of: $2,743,666.40**
		Subtotal	**SUBTOTAL**				**$146,091,596.40**	
	6.39 B	Mob	MOBILIZATION	1.00	L.S.	$11,585,000.00	$11,585,000.00	BID PRICE OF MOBILIZATION SHALL NOT EXCEED 8% OF THE ABOVE SUB-TOTAL PRICE.

Note applies to JB Specialty Items listed in below: if the same JB Specialty Item is listed multiple times under different utility companies, the bidder must enter the same bid price for that JB Specialty Item. If different prices are entered for the same JB Specialty Item within the Fixed Sum amounts for different utilities;, the lowest price will be used for that JB Specialty item for each Fixed Sum amount for every utility.

CE1	N/A	CE Item	JB FIXED SUM PRICE LIST, ACCOMODATION, AND CONTINGENCY WORK	1.00	F.S	N/A	**$934,480.00**	
CE2	51.42S1SO	CE Item	INCREMENTAL COST OF STANDARD CATCH BASIN TYPE 3 WITH CURB PIECE IN LIEU OF STANDARD CATCH BASIN TYPE 1	11.00	EACH	$6,000.00	$66,000.00	Unit price bid shall not be less than: $6,000.00
CE3	JB 500	CE Item	REMOVAL OF ABANDONED UTILITY CONDUITS (NON-CONCRETE ENCASED	480.00	L.F.	$5.00	$2,400.00	Unit price bid shall not be less than: $5.00
CE4	JB 501	CE Item	REMOVAL OF ABANDONED MASONRY FOR UTILITY FACILITIES	10.00	C.Y.	$310.00	$3,100.00	Unit price bid shall not be less than: $308.00
CE5	JB 117	CE Item	UTILITY CROSSING PILES FOR FLOOD WALL OR FLOOD GATE	9.00	EACH	$7,500.00	$67,500.00	Unit price bid shall not be less than: $7,540.00
CE6	JB 118	CE Item	UTILITY CROSSING THROUGH FOR FLOOD WALL OR FLOOD GATE REINFORCED	9.00	EACH	$9,200.00	$82,800.00	Unit price bid shall not be less than: $9,150.00
CE7	JB 603E.1	CE Item	INSTALL UTILITY CONDUITS PLACED IN FINAL POSITION WITHOUT CONCRETE ENCASEMENT	180.00	L.F.	$4.00	$720.00	Unit price bid shall not be less than: $4.00

Department of Design and Construction

NEW YORK CITY DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF INFRASTRUCTURE - BUREAU OF DESIGN
BID SCHEDULE

Project ID: SANDRDHK
ePIN: 85025B0025

TOTAL BID PRICE: $157,676,596.40

Col. 1	Col. 2	Col. 3	Col. 4	Col. 5	Col. 6	Col. 7	Col.8	Col.9
Seq. No	**Item Number**	**Line Type**	**Item Description**	**Engineer's Estimate of Quantity**	**Unit**	**Unit Price**	**Extended Amount**	**Price Criteria**
CE8	JB 603E.2	CE Item	INSTALL UTILITY CONDUITS PLACED IN FINAL POSITION WITH CONCRETE ENCASEMENT	720.00	L.F.	$8.00	$5,760.00	Unit price bid shall not be less than: $8.00
CE9	JB 638 N	CE Item	INSTALLATION OF FIELD CONSTRUCTED UTILITIES STRUCTURES	6.00	C.Y.	$1,300.00	$7,800.00	Unit price bid shall not be less than: $1,256.00
	JB-FS-CE	**Subtotal**	**CON EDISON JB FIXED SUM**	**1.00**	**F.S**	N/A	**$1,170,560.00**	**Price bid shall be for the Fixed Sum of: $1,170,560.00**
NG1	N/A	NG Item	JB FIXED SUM PRICE LIST, ACCOMODATION, AND CONTINGENCY WORK	1.00	F.S	N/A	$670,684.20	
NG2	JB 502	NG Item	REMOVAL OF ABANDONED GAS FACILITIES WITH POSSIBLE COAL TAR WRAP. ALL SIZES.	1,500.00	L.F.	$31.00	$46,500.00	Unit price bid shall not be less than: $31.00
NG3	JB 710.1	NG Item	REMOVAL OF ABANDONED UNTILITY STEEL/ CAST IRON/ PLASTIC PIPES, UP TO & INCLUDING 12" DIAMETER PIPE	3,750.00	L.F.	$16.00	$60,000.00	Unit price bid shall not be less than: $16.00
	JB-FS-NG	**Subtotal**	**NATIONAL GRID JB FIXED SUM**	**1.00**	**F.S**	N/A	**$777,184.20**	**Price bid shall be for the Fixed Sum of: $777,184.20**
VZ1	N/A	VZ Item	JB FIXED SUM PRICE LIST, ACCOMODATION, AND CONTINGENCY WORK	1.00	F.S	N/A	**$2,394,496.40**	
VZ2	JB 500	VZ Item	REMOVAL OF ABANDONED UTILITY CONDUITS (NON-CONCRETE ENCASED)	534.00	L.F.	$5.00	$2,670.00	Unit price bid shall not be less than: $5.00
VZ3	JB 638 NT	VZ Item	INSTALLATION OF FIELD CONSTRUCTED TELEPHONE/COMMUNICATIONS UTILITY STRUCTURE	33.00	CY	$3,500.00	$115,500.00	Unit price bid shall not be less than: $3,539.00
VZ4	JB 638 RT	VZ Item	BREAK OUT AND REMOVE TELEPHONE/COMMUNICATIONSUTILITY STRUCTURE CONTAINING ACTIVE CABLES	33.00	CY	$7,000.00	$231,000.00	Unit price bid shall not be less than: $6,991.00
	JB-FS-VZ	**Subtotal**	**ECS-VERIZON JB FIXED SUM**	**1.00**	**F.S**	N/A	**$2,743,666.40**	**Price bid shall be for the Fixed Sum of: $2,743,666.40**

Pre-Award Process

The bidder is advised that as part of the pre-award review of its bid, it may be required to submit the information described in Sections (A) through (D) below. If required, the bidder must submit such information within five (5) business days following receipt of notification from DDC that it is among the low bidders. Such notification from DDC will be by email and will specify the types of information which must be submitted directly to DDC.

In the event the bidder fails to submit the required information within the specified time frame, its bid may be rejected as nonresponsive.

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(A) **Project Reference Form**: If required, the bidder must complete and submit the Project Reference Form set forth in this Bid Booklet. The Project Reference Form consists of 3 parts: (1) Contracts Completed by the Bidder, (2) Contracts Currently Under Construction by the Bidder, and (3) Pending Contracts Not Yet Started by the Bidder.

(B) **Copy of License**: If required, the bidder must submit a copy of the license under which the bidder will be performing the work. Such license must clearly show the following: (1) Name of the Licensee, (2) License Number, and (3) Expiration date of the License. A copy of the license will be required from bidders for the following contracts: Plumbing Work, Electrical Work and Asbestos Abatement.

(C) **Financial Information**: If required, the bidder must submit the financial information described below:

(1) Audited Financial Statements: Financial statements (Balance Sheet and Income Statement) of the entity submitting the bid, as audited by an independent auditor licensed to practice as a certified public accountant (CPA). Audited financial statements for the three most recent fiscal years must be submitted. Each such financial statement must include the auditor's standard report.

If the bidder does not have audited financial statements, it must submit an affidavit attesting to the fact that the bidder does not have such statements. In addition, the bidder must submit the following documentation covering the three most recent fiscal years: signed federal tax returns, unaudited financial statements, and a "certified review letter" from a certified public accountant (CPA) verifying the unaudited financial statements.

Unless the most recent audited or unaudited financial statement was issued within ninety (90) days, the bidder must submit interim financial information that includes data on financial position and results of operation (income data) for the current fiscal year. Such information may be summarized on a monthly or quarterly basis or at other intervals.

(2) Schedule of Aged Accounts Receivable, including portion due within ninety (90) days.

(D) **Project Specific Information**: If required, the bidder must submit the project specific information described below:

(1) Statement indicating the number of years of experience the bidder has had and in what type of construction.

(2) Resumes of all key personnel to be involved in the project, including the proposed project superintendent.

(3) List of significant pieces of equipment expected to be used for the contract, and whether such equipment is owned or leased.

(4) Description of work expected to be subcontracted, and to what firms, if known.

(5) List of key material suppliers.

(6) Preliminary bar chart time schedule

(7) Contractor's expected means of financing the project. This should be based on the assumption that the contractor is required to finance 2X average monthly billings throughout the contract period.

(8) Any other issues the contractor sees as impacting his ability to complete the project according to the contract.

In addition to the information described in Sections (A) through (D) above, the bidder shall submit such additional information as the Commissioner may require, including without limitation, an explanation or justification for specific unit price items.

The bidder is further advised that it may be required to attend a pre-award meeting with DDC representatives. If such a meeting is convened, the bidder will be advised as to any additional material to be provided.

Project References

A. Contracts completed by the bidder

List all contracts substantially completed within the last 4 years, up to a maximum of 10, in descending order of date of substantial completion.

Project & Location	Contract Type	Contract Amount ($000)	Date Completed	Owner Reference & Tel. No.	Architect/Engineer Reference & Tel. No. (if different from owner)
SANDRESM2 Installation of East Side Coastal Resiliency from East 15th Street to East 25th Street	Prime	$163,784,125.00	11/2024	NYCDDC Luis Caminero Director 347-786-1231	
D264410 Ramp Realignment & Consruction within the I-95/ Pelham Parkway Interchnage in New York City	Prime	$29,512,000.00	9/2024	NYSDOT Aubrey Thompson 347-739-1563	
S136-367 Construction of DSNY Staten Island 1 & 3 Garage - Phase 1	Prime	$19,138,000.00	2/2025	NYCDDC Glenn E. Brue Cell: 646-772-4230	
Arverne East Shore Front Parkway SHORE FRONT PKWY. RECONSTRUCTION FROM Edgemere Avenue between Beach 32	Prime	$23,725,000.00	11/2024	NYSDOT Aubrey Thompson 347-739-1563	
CT2-INTER Replacement of Trunk Water Main, Valves and Appurtenances in Shaft 16A Chamber at the Intersection of State Street and Nevins Street.	Prime	$7,211,983.00	Spring / 2024	NYSDDC Ahmed Ibrahim 917-299-5952	
HWK1048C Reconstruction of Kent Avenue in the south Section of the Brooklyn Waterfront Greenway, Brooklyn	Prime	$14,286,269.00	7/2021	NYSDDC Ahmed Ibrahim 917-299-5952	
HWBARUCH Reconstruction of east 25th Street Plaza Between Lexington and 3rd Avenue at Baruch College	Prime	$5,931,204.00	7/2021	NYCDDC John Delucia 347-844-0896	
HBX163 The Filling of Five Bridges Over Abandoned CSX Line Melrose, Bronx	Prime	$16,362,738.00	8/2021	NYSDOT Aubrey Thompson 347-739-1563	
SANDHW12 Reconstruction of Rockaway Beach Boulevard	Prime	$24,529,336.00	8/2021	NYCDDC John Delucia 347-844-0896	

B. Contracts currently under construction by the bidder

List all contracts currently under construction even if they are not similar to the contract being awarded.

Project & Location	Contract Type	Contract Amount ($000)	Subcontracted to Others ($000)	Uncompleted Portion ($000)	Date Scheduled to Complete	Owner Reference & Tel. No.	Architect/ Engineer Reference & Tel. No. (if different from owner)
Brooklyn Jail - Perini	Subcontractor	$3,038,939.00	N/A	2,686,848.25	3/2028	NYCDDC Luis Caminero Director 347-786-1231	
Penn Access - Halmar	Subcontractor	$4,089,750.00	$18,840.00	$3,105,732.00	8/2026	MTA	
SEK002386 Replacement of Combined Sewer of Existing Sewers and Water Main Work	Prime	$9,870,629.00	$300,366.00	$1,478,279.00	11/2024	NYCDDC Luis Caminero Director 347-786-1231	
HBPK17K & HBPK27K Reconstruction of 17th Avenue and 27th Avenue Pedistrian Bridges over the Belt Parkway	Prime	$32,077,557.00	$6,412,391.00	$21,411,539.00	12/2025	NYSDOT Aubrey Thompson 347-739-1563	

C. Pending contracts not yet started by the bidder

List all contracts awarded to or won by the bidder but not yet started.

Project & Location	Contract Type	Contract Amount ($000)	Date Scheduled to Start	Owner Reference & Tel. No.	Architect/Engineer Reference & Tel. No. (if different from owner)
Abule Road - L & M	Subcontactor	$10,500,000.00	2/10/2025	DHCR 212-480-6238	

Department of Design and Construction

THE CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF INFRASTRUCTURE
30-30 THOMSON AVENUE
LONG ISLAND CITY, NY, 11101
TEL: 718.391.1000
WEB: www.nyc.gov/ddc

TO BE FILLED IN BY THE BIDDER:

BIDDER'S NAME:

_____

_____

BID SECURITY (CIRCLE ONE):
BID BOND / CERTIFIED CHECK

NUMBER OF ADDENDUMS RECEIVED AND ATTACHED TO BID:
____ ADDENDUMS

DDC CLIENT AGENCY:
THE DEPARTMENT OF ENVIRONMENTAL PROTECTION
PREPARED BY:
NV5
DATE PREPARED:
4/25/2024

VOLUME 2 OF 3

FOR FURNISHING ALL LABOR AND MATERIALS NECESSARY AND REQUIRED FOR:

PROJECT ID: SANDRDHK

INFORMATION FOR BIDDERS
CONTRACT
PERFORMANCE AND PAYMENT BONDS
PREVAILING WAGE SCHEDULE

FOR FURNISHING ALL LABOR AND MATERIALS NECESSARY AND REQUIRED FOR:

RED HOOK COASTAL RESILIENCY (RHCR)
ATLANTIC BASIN AND BEARD STREET

INCLUDING ROADWAY RECONSTRUCTION, ROAD RAISING, SIDEWALK AND CURB RECONSTRUCTION, RETAINING STRUCTURES, FLOODWALLS, STORM SEWER, WATER MAIN, PEDESTRIAN RAMPS, STREET LIGHTING, PAVEMENT MARKINGS AND TRAFFIC SIGNAL WORK

TOGETHER WITH ALL WORK INCIDENTAL THERETO

BOROUGH OF BROOKLYN

CITY OF NEW YORK

CITY OF NEW YORK

DEPARTMENT OF DESIGN AND CONSTRUCTION

INFORMATION FOR BIDDERS

December 2021

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CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION

INFORMATION FOR BIDDERS

TABLE OF CONTENTS

1.	Description and Location of Work	1
2.	Time and Place for Receipt of Bids	1
3.	Definitions	1
4.	Invitation For Bids and Contract Documents	1
5.	Pre-Bid Conference	1
6.	Agency Contact	1
7.	Bidder's Oath	1
8.	Examination and Viewing of Site, Consideration of Other Sources of Information and Changed Conditions	2
9.	Examination of Proposed Contract	2
10.	Form of Bid	2
11.	Irrevocability of Bid	3
12.	Acknowledgment of Amendments	3
13.	Bid Samples and Descriptive Literature	3
14.	Proprietary Information/Trade Secrets	3
15.	Pre-Opening Modification or Withdrawal of Bids	3
16.	Bid Evaluation and Award	3
17.	Late Bids, Late Withdrawals and Late Modifications	3
18.	Withdrawal of Bids.	3
19.	Mistake in Bids	4
20.	Low Tie Bids	4
21.	Rejection of Bids	5
22.	Right to Appeal Determinations of Non-Responsiveness or Non-Responsibility and Right to Protest Solicitations and Award	5
23.	Affirmative Action and Equal Employment Opportunity	5
25.	Complaints About the Bid Process	6
26.	Bid, Performance and Payment Security	6
27.	Failure to Execute Contract	7
28.	Bidder Responsibilities and Qualifications	7
29.	Employment Report	7
30.	Labor Law Requirements	8
31.	Insurance	8
32.	Lump Sum Contracts	8
33.	Unit Price Contracts	8

34.	Excise Tax	9
35.	Licenses and Permits	9
36.	Multiple Prime Contractors	9
37.	Locally Based Enterprise Requirements (LBE)	9
38.	Bid Submission Requirements	11
39.	Comptroller's Certificate	11
40.	Procurement Policy Board Rules	11
41.	DDC Safety Requirements	11

1. Description and Location of Work

The description and location of the work for which bids are requested are specified in the PASSPort RFx field "Description".

2. Time and Place for Receipt of Bids

Sealed bids shall be received on or before the date and hour specified in the PASSPort RFx, at which time they will be publicly opened and read aloud in the presence of the Commissioner or the Commissioner's or her representative, and any bidders who may desire to be present.

3. Definitions

The definitions set forth in the Procurement Policy Board Rules shall apply to this Invitation For Bids.

4. Invitation For Bids and Contract Documents

(A) Except for titles, sub-titles, headings, running headlines, tables of contents and indices (all of which are printed herein merely for convenience) the following, except for such portions thereof as may be specifically excluded, shall be deemed to be part of the Contract and the Invitation for Bids.

(1) All provisions required by law to be inserted in this Contract, whether actually inserted or not

(2) The Contract Drawings and Specifications

(3) The General Conditions, the General Requirements and the Special Conditions, if any

(4) The Contract

(5) The Information for Bidders; Request for Proposals; Notice of Solicitation and Proposal For Bids; Bid or Proposal, and the Bid Booklet

(6) The Budget Director's Certificate; all Addenda issued prior to the receipt of the bids; the Notice of Award; Performance and Payment Bonds, if required; and the Notice to Proceed with the Work.

(B) For particulars as to this procurement, including quantity and quality of the purchase, extent of the work or labor to be performed, delivery and performance schedule, and any other special instructions, prospective bidders are referred to the Invitation For Bids Documents. A copy of such documents can be obtained in the PASSPort RFx.

5. Pre-Bid Conference

A pre-bid conference shall be held as set forth in the PASSPort RFx. Nothing stated at the pre-bid conference shall change the terms or conditions of the Invitation For Bids Documents, unless a change is made by written amendment as provided in Section 9 below. Failure to attend a mandatory pre-bid conference shall constitute grounds for the rejection of the bid.

6. Agency Contact

Any questions or correspondence relating to this bid solicitation shall be addressed to the Agency Contact person specified in the PASSPort RFx.

7. Bidder's Oath

(A) The bid shall be properly signed by an authorized representative of the bidder and the bid shall be verified by the written oath of the authorized representative who signed the bid, that the several matters stated and information furnished therein are in all aspects true.

(B) A materially false statement willfully or fraudulently made in connection with the bid or any of the forms completed and submitted with the bid may result in the termination of any Contract between the City and the Bidder. As a result, the Bidder may be barred from participating in future City contracts as well as be subject to possible criminal prosecution.

8. Examination and Viewing of Site, Consideration of Other Sources of Information and Changed Conditions

(A) Pre-Bidding (Investigation) Viewing of Site - Bidders must carefully view and examine the site of the proposed work, as well as its adjacent area, and seek other usual sources of information, for they will be conclusively presumed to have full knowledge of any and all conditions on, about or above the site relating to or affecting in any way the performance of the work to be done under the Contract which were or should have been indicated to a reasonably prudent bidder. To arrange a date for visiting the work site, bidders are to contact the Agency Contact person specified in The PASSPort RFx.

(B) Should the contractor encounter during the progress of the work subsurface conditions at the site materially differing from any shown on the Contract Drawings or indicated in the Specifications or such subsurface conditions as could not reasonably have been anticipated by the contractor and were not anticipated by the City, which conditions will materially affect the cost of the work to be done under the Contract, the attention of the Commissioner must be called immediately to such conditions before they are disturbed. The Commissioner shall thereupon promptly investigate the conditions. If the Commissioner finds that they do so materially differ, or that they could not reasonably have been anticipated by the contractor and were not anticipated by the City, the Contract may be modified with the Commissioner's written approval.

9. Examination of Proposed Contract

(A) Request for Interpretation or Correction: Prospective bidders must examine the Contract Documents carefully and before bidding must request the Commissioner in writing for an interpretation or correction of every patent ambiguity, inconsistency or error therein which should have been discovered by a reasonably prudent bidder. Such interpretation or correction, as well as any additional contract provisions the Commissioner may decide to include, will be issued in writing by the Commissioner as an addendum to the Contract, which will be transmitted to each person recorded as having received a copy of the Contract Documents from the Department. Transmission of such addendum will be by mail, e-mail, facsimile or hand delivery. Such addendum will also be posted at the place where the Contract Documents are available for the inspection of prospective bidders. Upon transmission as provided for herein, such addendum shall become a part of the Contract Documents, and binding on all bidders, whether or not actual notice of such addendum is shown.

(B) Only Commissioner's Interpretation or Correction Binding: Only the written interpretation or correction so given by the Commissioner shall be binding, and prospective bidders are warned that no other officer, agent or employee of the City is authorized to give information concerning, or to explain or interpret, the Contract.

(C) Documents given to a subcontractor for the purpose of soliciting the subcontractor's bid shall include either a copy of the bid cover sheet or a separate information sheet setting forth the project name, the Contract number (if available), the contracting agency and the Project's location.

10. Form of Bid

Each bid must be submitted upon the prescribed form and must contain: a) the name, residence and place of business of the person or persons making the same; b) the names of all persons interested therein, and if no other person is so interested, such fact must be distinctly stated; c) a statement to the effect that it is made without any connection with any other person making a bid for the same purpose and that it is in all respects fair and without collusion or fraud; d) a statement that no Council member or other officer or employee or person whose salary is payable in whole or part from the City Treasury is directly or indirectly interested therein or in the supplies, materials or equipment and work or labor to which it relates, or in any portion of the profits thereof; e) a statement that the bidder is not in arrears to the City or to any agency upon a debt or contract or taxes, and is not a defaulter as surety or otherwise upon any obligation to the City to any agency thereof, except as set forth in the bid.

THE BID SHALL BE TYPEWRITTEN OR WRITTEN LEGIBLY IN INK. THE BID SHALL BE SIGNED IN INK. ERASURES OR ALTERATIONS SHALL BE INITIALED BY THE SIGNER IN INK. FAILURE TO CONFORM TO THE REQUIREMENTS OF THIS SECTION 10 SHALL RESULT IN THE REJECTION OF THE BID.

11. Irrevocability of Bid

The prices set forth in the bid cannot be revoked and shall be effective until the award of the Contract, unless the bid is withdrawn as provided for in Sections 15 and 18 below.

12. Acknowledgment of Amendments

The receipt of any amendment to the Contract Documents shall be acknowledged by the bidder in its bid submission.

13. Bid Samples and Descriptive Literature

Bid samples and descriptive literature shall not be submitted by the bidder, unless expressly requested elsewhere in the Contract or Contract Documents. Any unsolicited bid samples or descriptive literature which are submitted shall not be examined or tested and shall not be deemed to vary any of the provisions of this Contract.

14. Proprietary Information/Trade Secrets

(A) The bidder shall identify those portions of the bid which it deems to be confidential, proprietary information or trade secrets, and provide justification why such materials shall not be disclosed by the City. All such materials shall be clearly indicated by stamping the pages on which such information appears, at the top and bottom thereof with the word "Confidential". Such materials stamped "Confidential" must be easily separable from the non-confidential sections of the bid.

(B) All such materials so indicated shall be reviewed by the Agency and any decision not to honor a request for confidentiality shall be communicated in writing to the bidder. For those bids which are unsuccessful, all such confidential materials shall be returned to the bidder. Prices, makes and model or catalog numbers of the items offered, deliveries, and terms of payment shall be publicly available after bid opening, regardless of any designation of confidentiality made by the bidder.

15. Pre-Opening Modification or Withdrawal of Bids

Bids may be modified or withdrawn by written notice received in the office designated in the PASSPort RFx, before the time and date set for the bid opening. If a bid is withdrawn in accordance with this Section, the bid security, if any, shall be returned to the bidder.

16. Bid Evaluation and Award

In accordance with the New York City Charter, the Procurement Policy Board Rules and the terms and conditions of this Invitation For Bids, this Contract shall be awarded, if at all, to the responsible bidder whose bid meets the requirements and evaluation criteria set forth in the Invitation For Bids, and whose bid price is either the most favorable bid price or, if the Invitation For Bids so states, the most favorable evaluated bid price. A bid may not be evaluated for any requirement or criterion that is not disclosed in the Invitation For Bids.

Restriction: No negotiations with any bidder shall be allowed to take place except under the circumstances and in the manner set forth in Section 21. Nothing in this Section shall be deemed to permit a contract award to a bidder submitting a higher quality item than that designated in the Invitation For Bids, if that bid is not also the most favorable bid.

17. Late Bids, Late Withdrawals and Late Modifications

Any bid received at the place designated in the solicitation after the time and date set for receipt of bids is late and shall not be considered. Any request for withdrawal or modification received at the place designated in the solicitation after the time and date set for receipt of bids is late and shall not be considered. The exception to this provision is that a late modification of a successful bid that makes the bid terms more favorable to the City shall be considered at any time it is received.

18. Withdrawal of Bids.

Except as provided for in Section 15, above, a bidder may not withdraw its bid before the expiration of forty-five (45) days after the date of the opening of bids; thereafter, a bidder may withdraw its bid only in writing and in advance of an actual award. If within sixty (60) days after the execution of the Contract, the Commissioner fails to fix the date

for commencement of work by written notice to the bidder, the bidder at the bidder's option, may ask to be relieved of the bidder's obligation to perform the work called for by written notice to the Commissioner. If such notice is given to the Commissioner, and the request to withdraw is granted, the bidder waives all claims in connection with this Contract.

19. Mistake in Bids

(A) Mistake Discovered Before Bid Opening: A bidder may correct mistakes discovered before the time and date set for bid opening by withdrawing or correcting the bid as provided in Section 15 above.

(B) Mistakes Discovered Before Award

(1) In accordance with General Municipal Law (Section 103, subdivision 11), where a unilateral error or mistake is discovered in a bid, such bid may be withdrawn upon written approval of the Agency Chief Contracting Officer if the following conditions are met:

(a) The mistake is known or made known to the agency prior to the awarding of the Contract or within 3 days after the opening of the bid, whichever period is shorter; and

(b) The price bid was based upon an error of such magnitude that enforcement would be unconscionable; and

(c) The bid was submitted in good faith and the bidder submits credible evidence that the mistake was a clerical error as opposed to a judgment error; and

(d) The error in the bid is actually due to an unintentional and substantial arithmetic error or an unintentional omission of a substantial quantity of work, labor, material or services made directly in the compilation of the bid, which unintentional arithmetic error or unintentional omission can be clearly shown by objective evidence drawn from inspection of the original work paper, documents, or materials used in the preparation of the bid sought to be withdrawn; and

(e) It is possible to place the agency in the same position as existed prior to the bid.

(2) Unless otherwise required by law, the sole remedy for a bid mistake in accordance with this Article shall be withdrawal of the bid, and the return of the bid bond or other security, if any, to the bidder. Thereafter, the agency may, in its discretion, award the Contract to the next lowest bidder or rebid the Contract. Any amendment to or reformation of a bid or a Contract to rectify such an error or mistake therein is strictly prohibited.

(3) If the mistake and the intended correct bid are clearly evident on the face of the bid document, the bid shall be corrected to the intended correct bid and may not be withdrawn. Examples of mistakes that may be corrected are typographical errors, errors in extending unit prices, transposition errors and arithmetical errors.

20. Low Tie Bids

(A) When two or more low responsive bids from responsible bidders are identical in price, meeting all the requirements and criteria set forth in the Invitation For Bids, the Agency Chief Contracting Officer will break the tie in the following manner and order of priority:

(1) Award to a certified New York City small, minority or woman-owned business entity bidder;

(2) Award to a New York City bidder;

(3) Award to a certified New York State small, minority or woman-owned business bidder;

(4) Award to a New York State bidder.

(B) If two or more bidders still remain equally eligible after application of paragraph (A) above, award shall be made by a drawing by lot limited to those bidders. The bidders involved shall be invited to attend the drawing. A witness shall be present to verify the drawing and shall certify the results on the bid tabulation sheet.

21. Rejection of Bids

(A) Rejection of Individual Bids: The Agency may reject a bid if:

(1) The bidder fails to furnish any of the information required pursuant to Section 24 or 28 hereof; or if

(2) The bidder is determined to be not responsible pursuant to the Procurement Policy Board Rules; or if

(3) The bid is determined to be non-responsive pursuant to the Procurement Policy Board Rules; or if

(4) The bid, in the opinion of the Agency Chief Contracting Officer, contains unbalanced bid prices and is thus non-responsive, unless the bidder can show that the prices are not unbalanced for the probable required quantity of items, or if the imbalance is corrected pursuant to Section 15.

(B) Rejection of All Bids: The Agency, upon written approval by the Agency Chief Contracting Officer, may reject all bids and may elect to resolicit bids if in its sole opinion it shall deem it in the best interest of the City so to do.

(C) Rejection of All Bids and Negotiation With All Responsible Bidders: The Agency Head may determine that it is appropriate to cancel the Invitation For Bids after bid opening and before award and to complete the acquisition by negotiation. This determination shall be based on one of the following reasons:

(1) All otherwise acceptable bids received are at unreasonable prices, or only one bid is received and the Agency Chief Contracting Officer cannot determine the reasonableness of the bid price, or no responsive bid has been received from a responsible bidder; or

(2) In the judgment of the Agency Chief Contracting Officer, the bids were not independently arrived at in open competition, were collusive, or were submitted in bad faith.

(B) When the Agency has determined that the Invitation for Bids is to be canceled and that use of negotiation is appropriate to complete the acquisition, the contracting officer may negotiate and award the Contract without issuing a new solicitation, subject to the following conditions:

(1) prior notice of the intention to negotiate and a reasonable opportunity to negotiate have been given by the contracting officer to each responsible bidder that submitted a bid in response to the Invitation for Bids;

(2) the negotiated price is the lowest negotiated price offered by a responsible bidder; and

(3) the negotiated price is lower than the lowest rejected bid price of a responsible bidder that submitted a bid in response to the Invitation for Bids.

22. Right to Appeal Determinations of Non-Responsiveness or Non-Responsibility and Right to Protest Solicitations and Award

The bidder has the right to appeal a determination of non-responsiveness or non-responsibility and has the right to protest a solicitation and award. For further information concerning these rights, the bidder is directed to the Procurement Policy Board Rules.

23. Affirmative Action and Equal Employment Opportunity

This Invitation For Bids is subject to applicable provisions of Federal, State and Local Laws and executive orders requiring affirmative action and equal employment opportunity.

24. PASSPort COMPLIANCE

All vendors that intend to do business with the City of New York must complete a disclosure process in order to be considered for a contract. This disclosure process was formerly completed using Vendor Information Exchange System (VENDEX) paper-based forms. The City of New York has moved collection of vendor disclosure information online. In early August 2017, the New York City Mayor's Office of Contract Services (MOCS) launched the Procurement and Sourcing Solutions Portal (PASSPort), a new online procurement system that replaced the paper-VENDEX process. In anticipation of awards, all bidders must create online accounts in the new PASSPort system, and

file all disclosure information using PASSPort. Paper submissions, including certifications of no changes to existing VENDEX packages, will not be accepted in lieu of complete online filings using PASSPort.

All vendors that intend to do business with the City, but specifically those that fall into any of the following categories, are required to enroll:

- Have a pending award with a City Agency; or
- Hold a current contract with a City Agency and have either an expiring VENDEX or expiring Certificate of No Change.

The Department of Design and Construction (DDC) and MOCS hereby notifies all proposers that the PASSPort system is available, and that disclosure filing completion is required prior to any award through this competitive bid.

To enroll in PASSPort and to access the PASSPort website (including online training), please visit www.nyc.gov/passport. Contact MOCS at passport@mocs.nyc.gov for additional information and technical support.

25. Complaints About the Bid Process

The New York City Comptroller is charged with the audit of contracts in New York City. Any vendor who believes that there has been unfairness, favoritism or impropriety in the bid process should inform the Comptroller, Office of Contract Administration, One Centre Street, Room 835, New York, New York; telephone number (212)669-2323.

26. Bid, Performance and Payment Security

(A) Bid Security: Each bid must be accompanied by bid security in an amount and type specified in the PASSPort RFx questionnaire. The bid security shall assure the City of New York of the adherence of the bidder to its proposal, the execution of the Contract, and the furnishing of Performance and Payment Bonds by the bidder, if required in the PASSPort RFx. Bid security shall be returned to the bidder as follows:

(1) Within ten (10) days after the bid opening, the Comptroller will be notified to return the deposits of all but the three (3) lowest bidders. Within five (5) days after the award, the Comptroller will be notified to return the deposits of the remaining two unsuccessful bidders.

(2) Within five (5) days after the execution of the Contract and acceptance of the Contractor's bonds, the Comptroller will be notified to return the bid security of the successful bidder or, if performance and payment bonds are not required, only after the sum retained under Article 21 of the Contract equals the amount of the bid security.

(3) Where all bids are rejected, the Comptroller will be notified to return the deposit of the three (3) lowest bidders at the time of rejection.

(B) Performance and Payment Security: Performance and Payment Security must be provided in an amount and type specified in the PASSPort RFx. The performance and payment security shall be delivered by the contractor prior to or at the time of execution of the Contract. If a contractor fails to deliver the required performance and payment security, its bid security shall be enforced, and an award of Contract may be made to the next lowest responsible and responsive bidder, or the contract may be rebid.

(C) Acceptable Types of Security: Acceptable types of security for bids, performance, and payment shall be limited to the following:

(1) a one-time bond in a form satisfactory to the City;

(2) a bank certified check or money order;

(3) obligations of the City of New York; or

(4) other financial instruments as determined by the Office of Construction in consultation with the Comptroller.

Whenever the successful bidder deposits obligations of the City of New York as performance and payment security, the Comptroller may sell and use the proceeds thereof for any purpose for which the principal or

surety on such bond would be liable under the terms of the Contract. If the money is deposited with the Comptroller, the successful bidder shall not be entitled to receive interest on such money from the City.

(D) Form of Bonds: Security provided in the form of bonds must be prepared on the form of bonds authorized by the City of New York. Forms for bid, performance, and payment bonds are included in the Invitation for Bids Documents. Such bonds must have as surety thereunder such surety company or companies as are: (1) approved by the City of New York; (2) authorized to do business in the State of New York, and (3) approved by the Department of the Treasury of the United States. Premiums for any required bonds must be included in the base bid.

The bidder is advised that submission of a bid bond where the surety on such bond fails to meet the criteria set forth herein, shall result in the rejection of the bid as non-responsive.

The Department of the Treasury of the United States advises that information concerning approved surety companies may be obtained as follows: (1) from the Government Printing Office at 215-364-6465; (2) through the Internet at https://www.fiscal.treasury.gov/surety-bonds/.

(E) Power of Attorney: Attorneys in fact who sign bid, performance, or payment bonds must file with each bond a certified copy of their power of attorney to sign said bonds.

27. Failure to Execute Contract

In the event of failure of the successful bidder to execute the Contract and furnish the required security within ten (10) days after notice of the award of the Contract, the deposit of the successful bidder or so much thereof as shall be applicable to the amount of the award made shall be retained by the City, and the successful bidder shall be liable for and hereby agrees to pay on demand the difference between the price bid and the price for which such Contract shall be subsequently awarded, including the cost of any required reletting and less the amount of such deposit. No plea of mistake in such accepted bid shall be available to the bidder for the recovery of the deposit or as a defense to any action based upon such accepted bid. Further, should the bidder's failure to comply with this Section cause any funding agency, body or group (Federal, State, City, Public, Private, etc.) to terminate, cancel or reduce the funding on this project, the bidder in such event shall be liable also to the City for the amount of actual funding withdrawn by such agency on this project, less the amount of the forfeited deposit.

28. Bidder Responsibilities and Qualifications

(A) Bidders must include with their bids all information necessary for a determination of bidder responsibility, as set forth in the Specifications.

(B) The Agency may require any bidder or prospective bidder to furnish all books of account, records, vouchers, statements or other information concerning the bidder's financial status for examination as may be required by the Agency to ascertain the bidder's responsibility and capability to perform the Contract. If required, a bidder must also submit a sworn statement setting forth such information as the Agency may require concerning present and proposed plant and equipment, the personnel and qualifications of the bidder's working organizations, prior experience and performance record.

(C) Oral Examination on Qualifications: In addition thereto, and when directed by the Agency, the bidder, or a responsible officer, agent or employee of the bidder, must submit to an oral examination to be conducted by the Agency in relation to the bidder's proposed tentative plan and schedule of operations, and such other matters as the Agency may deem necessary in order to determine the bidder's ability and responsibility to perform the work in accordance with the Contract. Each person so examined must sign and verify a stenographic transcript of such examination noting thereon such corrections as such person may desire to make.

(D) If the bidder fails or refuses to supply any of the documents or information set forth in paragraph (B) hereof or fails to comply with any of the requirements thereof, the Agency may reject the bid.

29. Employment Report

In accordance with Executive Order No. 50 (1980) as modified by Executive Order 108 (1986), the filing of a

completed Employment Report (ER) is a requirement of doing business with the City of New York for construction contractors with contracts of $1,000,000 or more and subcontractors with construction subcontracts of $750,000 or more. The required forms and information are included in the PASSPort Vendor Profile.

30. Labor Law Requirements

(A) General: The successful bidder will be required to comply strictly with all Federal, State and local labor laws and regulations.

(B) New York State Labor Law: This Contract is subject to New York State Labor Law Section 220, which requires that construction workers on the site be paid prevailing wages and supplements. The Contractor is reminded that all wage provisions of this Contract will be enforced strictly and failure to comply will be considered when evaluating performance. Noncompliance may result in the contractor being debarred by the City from future contracts. Complaints filed with the Comptroller may result in decisions which may debar a contractor from bidding contracts with any state governmental entity and other political subdivisions.

(C) Records: The Contractor is expected to submit accurate payroll reports and other required documents and verify attendance and job classifications being utilized in compliance with the law, Contract provisions and agency procedures.

31. Insurance

(A) Bidders are advised that the insurance requirements contained herein are regarded as material terms of the Contract. As required by Article 22 of the Contract, the contractor must effect and maintain with companies licensed and authorized to do business in the State of New York, the types of insurance set forth therein, when required by and in the amounts set forth in Schedule A of the General Conditions. Such required insurance must be provided from the date the contractor is ordered to commence work and up to the date of final acceptance of all required work.

(B) The contractor must, within ten days of receipt of the notice of award, submit the following insurance documentation: (a) original certificate of insurance for general liability in the amount required by Schedule A of the General Conditions, and (b) original certificates of insurance or other proof of coverage for workers' compensation and disability benefits, as required by Section 57 of the New York State Workers' Compensation Law and Section 220 of the Disability Benefits Law.

32. Lump Sum Contracts

(A) Comparison of Bids: Bids on Lump Sum Contracts will be compared on the basis of the lump sum price bid, adjusted for alternate prices bid, if any.

(B) Lump Sum Bids for "General Construction Work" which include excavation shall include all necessary excavation work defined in the Specifications as being included in the lump sum bid. The bidder shall also bid a unit price for the additional cost of excavating material which is defined in the Specifications as excavation for which additional payment will be made. The total estimated additional cost of removing such material will be taken as the quantity set forth in the Engineer's Estimate multiplied by the unit price bid. This total estimated cost of additional excavation shall be added to the lump sum bid for the General Construction Work for the purpose of comparing bids to determine the low bidder.

(C) Variations from Engineer's Estimate: The Engineer's Estimate of the quantity of excavation for which additional payment will be made is approximate only and is given solely to be used as a uniform basis for the comparison of bids and such estimate is not to be considered as part of this contract. The quantities actually required to complete the contract work may be more or less than the quantities in the Engineer's Estimate and, if so, no action for damages or for loss of profits shall accrue to the contractor by reason thereof.

33. Unit Price Contracts

(A) Comparison of Bids: Bids on Unit Price Contracts will be compared on the basis of a total estimated price,

arrived at by taking the sum of the estimated quantities of such items, in accordance with the Engineer's Estimate of Quantities set forth in the Bid Schedule, multiplied by the corresponding unit prices, and including any lump sum bids on individual items.

(B) Variations from Engineer's Estimate: Bidders are warned that the Engineer's Estimate of Quantities on the various items of work and materials is approximate only, given solely to be used as a uniform basis for the comparison of bids, and is not be considered part of this contract. The quantities actually required to complete the contract work may be less or more than so estimated, and if so, no action for damages or for loss of profits shall accrue to the contractor by reason thereof.

(C) Overruns: The terms and conditions applicable to overruns of unit price items are set forth in Article 26 of the Contract.

34. Excise Tax

Bidders are referred to the Specifications for information on Federal Excise Tax exemptions.

35. Licenses and Permits

The successful bidder will be required to obtain all necessary licenses and permits necessary to perform the work.

36. Multiple Prime Contractors

If more than one prime contractor will be involved on this project, all contractors are required to examine the Invitation for Bid packages for all other parts of the project.

37. Locally Based Enterprise Requirements (LBE)

This Contract is subject to the requirements of Administrative Code, Section 6-108.1, and the regulations promulgated thereunder. No construction contract will be awarded unless and until these requirements have been complied with in their entirety. The bidder is advised of the provisions set forth below, as well as the provisions with respect to the Locally Based Enterprise Program contained in Article 67 of the Contract. The contractor is advised that:

(A) If any portion of the Contract is subcontracted, not less than ten percent of the total dollar amount of the contract shall be awarded to locally based enterprises ("LBEs"); except, where less than ten percent of the total dollar amount of the Contract is subcontracted, such lesser percentage shall be so awarded.

(B) No contractor shall require performance and payment bonds from LBE subcontractors.

(C) No Contract shall be awarded unless the contractor first identifies in its bid:

(1) the percentage, dollar amount and type of work to be subcontracted; and

(2) the percentage, dollar amount and type of work to be subcontracted to LBEs.

(D) Within ten calendar days after notification of low bid, the apparent low bidder shall submit an "LBE Participation Schedule" to the contracting agency. If such schedule does not identify sufficient LBE subcontractors to meet the requirements of Administrative Code Section 6-108.1, the apparent low bidder shall submit documentation of its good faith efforts to meet such requirements.

(1) The "LBE Participation Schedule" shall include:

(a) the name and address of each LBE that will be given a subcontract,

(b) the percentage, dollar amount and type of work to be subcontracted to the LBE, and

(c) the dates when the LBE subcontract work will commence and end.

(2) The following documents shall be attached to the "LBE Participation Schedule":

(a) verification letters from each subcontractor listed in the "LBE Participation Schedule" stating that the LBE will enter into a formal agreement for work,

(b) certification documents of any proposed LBE subcontractor which is not on the LBE certified list, and

(c) copies of the certification letter of any proposed subcontractor which is an LBE.

(3) Documentation of good faith efforts to achieve the required LBE percentage shall include as appropriate but not limited to the following:

(a) attendance at prebid meetings, when scheduled by the agency, to advise bidders of contract requirements;

(b) advertisement where appropriate in general circulation media, trade association publications and small business media of the specific subcontracts that would be at least equal to the percentage goal for LBE utilization specified by the contractor;

(c) written notification to association of small, minority and women contractors soliciting specific subcontractors;

(d) written notification by certified mail to LBE firms that their interest in the contract is solicited for specific work items and their estimated values;

(e) demonstration of efforts made to select portions of the work for performance by LBE firms in order to increase the likelihood of achieving the stated goal;

(f) documented efforts to negotiate with LBE firms for specific subcontracts, including at a minimum:

(i) The names, address and telephone numbers of LBE firms that are contacted;

(ii) A description of the information provided to LBE firms regarding the plans and specifications for portions of the work to be performed;

(iii) Documentation showing that no reasonable price can be obtained from LBE firms;

(iv) A statement of why agreements with LBE firms were not reached;

(g) a statement of the reason for rejecting any LBE firm which the contractor deemed to be unqualified; and

(h) documentation of efforts made to assist the LBE firms contacted that needed assistance in obtaining required insurance.

(E) Unless otherwise waived by the Commissioner with the approval of the Office of Economic and Financial Opportunity, failure of a proposed contractor to provide the information required by paragraphs (C) and (D) above may render the bid non-responsive and the Contract may not be awarded to the bidder. If the contractor states that it will subcontract a specific portion of the work, but can demonstrate despite good faith efforts it cannot achieve its required LBE percentage for subcontracted work until after award of Contract, the Contract may be awarded, subject to a letter of compliance from the contractor stating that it will comply with Administrative Code Section 6-108.1 and subject to approval by the Commissioner. If the contractor has not met its required LBE percentage prior to award, the contractor shall demonstrate that a good faith effort has been made subsequent to award to obtain LBEs on each subcontract until its meets the required percentage.

(F) When a bidder indicates prior to award that no work will be subcontracted, no work may be subcontracted without the prior written approval of the Commissioner, which shall be granted only if the contractor in good faith seeks LBE subcontractors at least six weeks prior to the start of work.

(G) The contractor may not substitute or change any LBE which was identified prior to award of the contract without the written permission of the Commissioner. The contractor shall make a written application to the Commissioner for permission to make such substitution or change, explaining why the contractor needs to change its LBE subcontractor and how the contractor will meet its LBE subcontracting requirement. Copies of such application must be served on the originally identified LBE by certified mail return receipt requested,

as well as the proposed substitute LBE. The Commissioner shall determine whether or not to grant the contractor's request for substitution.

38. Bid Submission Requirements

The Bid Submission Requirements are set forth in the PASSPort RFx.

39. Comptroller's Certificate

This Contract shall not be binding or of any force unless it is registered by the Comptroller in accordance with Section 328 of the City Charter and the Procurement Policy Board Rules. This Contract shall continue in force only after annual appropriation of funds by the City of New York and certification as hereinabove set forth.

40. Procurement Policy Board Rules

This Invitation For Bids is subject to the Rules of the Procurement Policy Board of the City of New York. In the event of a conflict between said Rules and a provision of this Invitation For Bids, the Rules shall take precedence.

41. DDC Safety Requirements

The DDC Safety Requirements apply to the work to be performed pursuant to the Contract. The DDC Safety Requirements are set forth on the following pages.

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CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
SAFETY REQUIREMENTS FOR CONSTRUCTION CONTRACTS

January 2020

THE DDC SAFETY REQUIREMENTS FOR CONSTRUCTION CONTRACTS INCLUDE THE FOLLOWING SECTIONS:

I. POLICY ON SITE SAFETY

II. PURPOSE

III. DEFINITIONS

IV. RESPONSIBILITIES

V. SAFETY QUESTIONNAIRE

VI. SITE SAFETY PLAN

VII. KICK-OFF/PRE-CONSTRUCTION MEETINGS AND SAFETY REVIEW

VIII. EVALUATION DURING WORK IN PROGRESS

IX. SAFETY PERFORMANCE EVALUATION

I. POLICY ON SITE SAFETY

The City of New York Department of Design and Construction (DDC) is committed to a policy of injury and illness prevention and risk management for construction work that will ensure the safety and health of the workers engaged in the projects and the protection of the general public. Therefore, it is DDC's policy that work carried out by Contractors on DDC contracts must, at a minimum, comply with the most current versions of all applicable federal, state and city laws, rules, and regulations, including without limitation:

- Code of Federal Regulations, Title 29, Part 1926 (29 CFR 1926) and applicable Sub-parts of Part 1910 – U.S. Occupational Safety and Health Administration (OSHA);
- Federal Highway Administration – Manual on Uniform Traffic Control Devices (MUTCD);
- New York Codes, Rules and Regulations (NYCRR), Title 12, Part 23 – Protection in Construction, Demolition and Excavation Operations;
- New York Codes, Rules and Regulations (NYCRR), Title 16, Part 753 – Protection of Underground Facilities;
- New York City Administrative Code, Title 28 – New York City Construction Codes;
- Rules of the City of New York, Title 15, Chapter 13 – Rules Pertaining To the Prevention of the Emission of Dust from Construction Related Activities;
- Rules of the City of New York, Title 15, Chapter 28 – Citywide Construction Noise Mitigation;
- Rules of the City of New York, Title 34 Chapter 2 – NYCDOT Highway Rules.

The Contractor will be required to comply with all new and/or revised federal, state and city laws, rules, and regulations, issued during the course of the project, at the expense of the Contractor without any additional costs to the DDC.

II. PURPOSE

The purpose of this policy is to ensure that Contractors perform their work and supervise their employees in accordance with all applicable federal, state and city rules and regulations. Further, Contractors will be expected to minimize or eliminate jobsite and public hazards, through a planning, inspection, auditing and corrective action process. The goal is to control risks so that injuries, illnesses, and accidents to contractors' employees, DDC employees and the general public, as well as damage to city-owned and private property, are reduced to the lowest level feasible.

III. DEFINITIONS

Agency Chief Contracting Officer (ACCO): The ACCO will mean the person delegated authority by the Commissioner to organize and supervise the procurement activity of subordinate Agency staff in conjunction with the City Chief Procurement Officer (CCPO).

Competent Person: As defined by OSHA, an individual who is capable of identifying existing and predictable hazards in the surroundings or working conditions that are unsanitary, hazardous, or dangerous to employees or the general public, and who has authorization to take prompt corrective measures to eliminate them. This individual will have completed, at a minimum an authorized 30-hour OSHA Construction Safety Course. The Contractor may be required to provide more than one competent person due to construction operations and based on the number of active work sites.

Construction Safety Auditor: A representative of the Office of Construction Safety who provides inspection and assessment services to enhance health and safety on all DDC construction projects. The activities of the Construction Safety Auditor include performing site audits, reviewing safety plans, reviewing construction permits, drawings, verifying Contractor's compliance with applicable federal, state and city laws, rules, regulations, and DDC Contract Safety Requirements, etc. and rendering technical advice and assistance to DDC Resident Engineers and Project Managers.

Office of Construction Safety: A unit of DDC Safety and Site Support that assesses contractor's safety on DDC jobsites and advises responsible parties of needed corrective actions.

Registered Construction Superintendent: For certain projects, as defined in New York City Construction Codes – Title 28, the contractor will provide a Construction Superintendent registered with the NYC Department of Buildings and responsible for all duties as defined in Chapter 33 of Title 1 of the Rules of the City of New York.

Contractor: For purposes of these Safety Requirements, the term "Contractor" will mean any person or entity that enters into a contract for the performance of construction work on a DDC project. The term "Contractor" will include any person or entity which enters into any of the following types of contracts: (1) a prime construction contract for a specific project, (2) a prime construction contract using the Job Order Contracting System ("JOCS Contract"), and (3) a subcontract with a CM/Builder ("First Tier Subcontract").

Daily Safety Job Briefing: Daily jobsite safety briefings, given to all jobsite personnel at project site by the Contractor before work begins and/or if hazards or potential hazards are discovered while working, with the purpose of discussing the scheduled activities for the day, the hazards related to these activities, activity specific safety procedures, and Job Hazard Analysis associated with the scheduled construction work. Daily jobsite briefings will be documented, available at the jobsite, and will include at a minimum, topics, name and signature of the person conducting the briefing session, names and signatures of attendants, name of the designated competent person, contactor's name, DDC Project ID, date, time, and location.

Director – Office of Construction Safety: Responsible for the operations of the Office of Construction Safety and the DDC Site Safety management programs.

Job Hazard Analysis (JHA): A process of identifying the major job tasks and any potential site-specific hazards that may be present during construction and establishing the means and methods to eliminate or control those hazards. A JHA will be documented, available at the jobsite and will include at a minimum work tasks, being performed, identified hazards, control methods for the identified hazards, contractor's name, DDC Project ID, location, date, name and signature of certifying person. A JHA is a living document that will be re-evaluated and revised to address new hazards and tasks that may develop and will be present at the worksite and produced upon request.

Qualified Person: As defined by OSHA, an individual who, by possession of a recognized degree, certificate, license, or professional standing, or who by extensive knowledge, training, and experience, has successfully demonstrated his or her ability to solve problems relating to the subject matter, the work, or the project. Qualified Persons are required under regulation to address issues pertaining, but without limit, to fall protection, scaffold design, maintenance and protection of traffic, and excavation protective system, among others.

Project Site: Those areas indicated in the Contract Documents where the Work is to be performed.

Project Safety Representative: The designated Project Safety Representative will have at a minimum an OSHA 30-hour Construction Safety Course and other safety training applicable to Contractor's/subcontractor's project work. This individual will be responsible to oversee safety performance of the required construction work, conduct documented daily safety inspections, and implement corrective actions to maintain a safe work site. The Project Safety Representative must have sufficient experience and skills necessary to thoroughly understand the health and safety hazards and controls and must have authority to undertake corrective actions. A dedicated full-time Project Safety Representative may be required on large projects and projects deemed by DDC to be particularly high risk. DDC reserves the right to request a dedicated full-time Project Safety Representative for any reason at any time during the course of the project at the expense of the Contractor without any additional costs to the DDC. The full-time Project Safety Representative will be present at the site during all work activities.

Resident Engineer ("RE"): Representative of the Commissioner duly designated by the Commissioner to be his/her representative at the site of the work. The RE may be a consultant retained by DDC, including a Construction Management (CM) or Resident Engineer Inspection (REI) firm. If DDC has retained a CM, REI or other consultant firm to perform management and oversite for the Project (e.g., CM-Builder, CM-Design-Builder, Project Manager, Program Manager), that CM, REI or other consultant is the Resident Engineer for purposes of these Safety Requirements.

Safety Questionnaire: Used by DDC to evaluate Contractor's current and past safety performance. It is required to be completed by all Contractors initially when submitting bids for Construction work, or when being pre-qualified

and updated annually or as requested by the DDC.

Site Safety Manager: For certain projects, as defined in New York City Construction Codes – Title 28, the Contractor will provide a Site Safety Manager with a Site Safety Manager License issued by the New York City Department of Building.

Site Safety Plan: A site-specific safety plan developed by the Contractor for a DDC project. The Site Safety Plan will identify the project work scope, identify hazards associated with the project work and include project specific safety procedures and training appropriate and necessary to complete the work. The Site Safety Plan will be submitted within 30 days from the Award Date or as otherwise directed and is subject to review and acceptance by the Office of Construction Safety prior to the commencement of work at the site.

Unsafe or Unhealthy Condition: A condition that could be potentially hazardous to the health and safety of personnel or the public, and/or damaging to equipment, machinery, property, or the environment.

Weekly Safety Meetings: Weekly jobsite safety meetings, given to all jobsite personnel by Contractor, with the purpose of discussing general safety topics and job specific requirements encountered at the DDC work site. Weekly safety meetings will be documented and will include at a minimum, topics, name and signature of the person conducting the meeting, names and signatures of attendees, contractor's name, DDC Project ID, date, and location.

Work: The construction required by the Contractor's Contract Documents whether completed or partially completed, performed by the Contractor/ subcontractors. Work refers to the furnishing of labor, furnishing and incorporating materials and equipment into the construction and providing any service required by the Contract Documents to fulfill the Contractor's obligation to complete the Project. For the purposes of these Safety Requirements, the term "Work" includes all Utility Interference work (commonly referred to as "Section U", "EP-7", and "Joint Bid" work) performed in association with this Contract.

IV. RESPONSIBILITIES

All persons who manage, perform, and provide support for construction projects will conduct operations in compliance with the requirements identified in this Policy and all applicable governing regulatory agency requirements and guidelines pertaining to safety in construction.

A. Resident Engineer

1. Review and facilitate Contractor(s) Site Safety Plan submittals to DDC for acceptability.
2. Notify the Office of Construction Safety of the commencement of construction work.
3. Develop and implement a training verification process to ensure that all CM/REI, consultant, Contractor, and subcontractor employees are properly trained. Maintain all applicable initial and refresher training records and assures documentation availability on site.
4. Maintain documentation of and attend weekly safety meetings and daily safety job briefings.
5. Assure that Contractor(s) JHA's are current to reflect the work tasks being performed, hazards, and control methods to mitigate the identified hazards. Verify that all employees at the job site are trained on the JHAs and maintain supporting documentation on site.
6. Assure adequate planning for all critical construction activities (crane operation, excavation, confined space entry, etc.) including coordination between Contractor(s) /DDC/ other Agencies as required.
7. Maintain custody of all construction related permits, plans, approvals, drawings, etc., related to the project and assure their availability on site.
8. Recognize, minimize, or eliminate jobsite and public hazards, through required planning, inspection, verification, and corrective action process.
9. Monitor the conditions at the site for conformance with the Contractor's Site Safety Plan, DDC policies, permits, and all applicable regulations and documentation that pertain to construction safety.
10. Notify the Contractor and DDC immediately upon determination of any condition or activity existing which is not in compliance with the Contractor's Site Safety Plan, applicable federal, state or local codes or any

condition that presents a potential risk of injury to the public or workers or possible damage to property. Direct the Contractor to provide such labor, materials, equipment, and supervision to remedy such conditions.

11. Notify the Office of Construction Safety and the ACCO's Insurance and Risk Management Unit of project-related accidents, incidents, and near misses as per DDC's Construction Safety Emergency and Accident Notification and Response Procedure within two (2) hours.
12. In case of an accident, incident, or near miss, RE is responsible to protect the integrity of the accident site including but not limited to: the safeguarding of all evidence, documentation of all personnel on site at the time of the accident, gather facts related to all accidents, incidents, or near miss, and prepare required DDC Construction Accident Report as per DDC's Construction Safety Emergency and Accident Notification and Response Procedure. Maintain all records pertaining to accidents, incidents, and near miss and have them available upon request.
13. Notify the Office of Construction Safety within two (2) hours of the start of an inspection by any outside/ regulatory agency personnel, including NYS, OSHA, NYC DOB or any other City/State/Federal oversight entity and forward a copy of the inspection report within one business day of its receipt.
14. Escort and assist Construction Safety Auditors during all field and record audits.
15. Report any emergency conditions to the Office of Construction Safety immediately.

Note: In addition to the responsibilities listed above, if the Resident Engineer is a CM/REI or other non-City party hired by the City to manage the Project, the Resident Engineer is also required to do the following:

16. Provide personnel who are certified and or trained appropriately for the requirements of the project.
17. Perform an investigation for any project-related accidents, incidents, and near misses. Within 24-hours of the time of the accident, incident, or near miss, the CM/REI will submit an investigation report to the Office of Construction Safety. Such report will include proposed remedial measures and implementation of corrective actions to prevent recurrence.

DDC reserves the right to request that the CM/REI replace any CM/REI personnel for any reason at any time during the project.

B. Construction Contractors

Note: For CM-Build and CM-Design-Build Projects, the CM will meet all requirements listed in this section, as well as the Resident Engineer section above.

1. Submit a completed Safety Questionnaire and other safety performance related documentation with its bid or as part of a pre-qualification package.
2. Submit a Site Safety Plan within 30 days from the Award Date or as otherwise directed. The Site Safety Plan is subject to review and acceptance by the Office of Construction Safety prior to the commencement of work at the site. The Site Safety Plan will be revised and updated as necessary during the course of the project. If requested by the Office of Construction Safety, the Site Safety Plan must be developed and submitted for approval using a web-based system, the Site Safety Plan Application (SSP App).
3. Designate and identify a Project Safety Representative in the Site Safety Plan. The Contractor will immediately notify the Office of Construction Safety, in a form and manner acceptable to the Office of Construction Safety, of any permanent change to the designated Project Safety Representative. In the event the primary designated Project Safety Representative is temporary unable to perform his or her duties, an alternate Project Safety Representative will be provided. Resumes, outlining the qualification and experience for the Project Safety Representative (s) will be included in the Site Safety Plan and available upon request. DDC reserves the right to request the Contractor to replace a Project Safety Representative for any reason at any time during the course of the project.
4. Designate and identify a Competent Person(s) in the Site Safety Plan. Contractor/subcontractor may be required to provide more than one competent person due to construction operations and based on a number of work tasks/areas. DDC reserves the right to request the Contractor to replace a Competent Person or provide additional Competent Person(s) for any reason at any time during the course of the project. The Competent Person will be present at the site during all work activities.
5. For certain projects, as defined in New York City Construction Codes – Title 28, designate and identify the Licensed Site Safety Manager or Registered Construction Superintendent. Resumes, outlining the qualification and experience for the Licensed Site Safety Manager or Registered Construction Superintendent will be included in the Site Safety Plan and available upon request. The Contractor will immediately notify the Office

of Construction Safety, in a form and manner acceptable to the Office of Construction Safety, of any permanent change to the designated Site Safety Manager and/or Construction Superintendent. In the event the primary designated Site Safety Manager or Construction Superintendent is temporarily unable to perform his or her duties, an alternate Licensed Site Safety Manager and/or Registered Construction Superintendent will be provided. The Office of Construction Safety must be informed of such change. DDC reserves the right to request the Contractor to replace Site Safety Manager or Construction Superintendent for any reason at any time during the course of the project.

6. Develop a written Job Hazard Analysis (JHA) that identifies safety hazards and control methods for project specific work tasks. A preliminary JHA will be included in the Site Safety Plan submitted by the Contractor. A JHA is a living document that will be re-evaluated and revised to address new hazards and tasks that may develop during the course of the project and will be present at the worksite and produced upon request.
7. Develop project specific safety procedures to protect employees, general public, and property during all construction activities for the duration of the project.
8. Ensure that all employees are aware of the hazards associated with the project through documented formal and informal training and/or other communications. Conduct and document new employee and site-specific safety orientation for all Contractor and subcontractor personnel to review the hazards associated with the project as identified in the Site Safety Plan and the specific safety procedures and controls that will be used to protect workers, the general public and property. The Project Safety Representative will conduct this training prior to mobilization and if necessary during the course of the project. Documentation will be provided to the RE.
9. Prior to performing any work on DDC projects all Contractor's and subcontractor's employees will, at a minimum, have successfully completed, within the previous five calendar years, an OSHA 10-hour construction safety course.

   All training records (OSHA 10-hour, flagger, scaffold, fall protection, confined space, etc.) will be provided to the RE prior to mobilization, included in the Site Safety Plan, kept current during the course of the project, and available for review.
10. Conduct and document weekly safety meetings and daily job briefing sessions for the duration of the project. Attendance at weekly safety meetings and daily job briefing sessions is mandatory. A written record of weekly safety meetings will be available upon request and job briefing sessions will be available at the worksite.
11. As part of the Site Safety Plan, prepare site specific procedures, such as maintenance and protection of traffic plan, steel erection plan, confined space program, fall protection plan, demolition plan, site specific emergency evacuation plan, etc. (if not otherwise provided in the contract documents) and comply with all of its provisions.
12. Have immediately available for review at the project site where actual construction activities are being performed all applicable documentation, including but not limited to: JHAs for work tasks being performed, all required training records, MPT plan (where applicable), Noise and Dust Mitigation Plans, excavation protective system drawings (where applicable), Emergency Evacuation plan, fall protection program (where applicable), confined space program (where applicable), all required permits, daily job briefing records, all required documentation for crane operation (where applicable), daily inspection checklist, scaffold and sidewalk drawings (when applicable), safety data sheets for chemicals in use.
13. Comply with all federal, state and local safety and health rules, laws, and regulations.
14. Comply with all provisions of the Site Safety Plan.
15. Provide, replace, and adequately maintain at or around the project site, suitable and sufficient signage, lights, barricades and enclosures (fences, sidewalk sheds, netting, bracing, etc.). The project specific MPT plan will be developed, implemented, and reviewed during the course of the project.
16. The Project Safety Representative will conduct daily safety inspections, document the inspection results, implement corrective actions for the identified hazards. Maintain the inspection records and have them available upon request.
17. **Report unsafe or unhealthy conditions to the RE as soon as practical, but no more than 24 hours after discovery, and take prompt actions to remove or abate such conditions. Should an imminent dangerous condition be discovered, Contractor will stop all work in the area of danger until corrections are made.**
18. Report all accidents, incidents and near misses involving injuries to workers or the general public, as well as property damage, to the RE within one (1) hour.
19. Following an accident or incident, unless otherwise directed, the Contractor will not remove or alter any equipment, structure, material, or evidence related to the accident or incident. Exception: Immediate emergency procedures taken to secure structures, temporary construction, operations, or equipment that pose a continued imminent danger or facilitate assistance for persons who are trapped or who have sustained bodily injury. Take

additional measures as necessary to secure the accident or incident site and to protect against any further injury or property damage.

20. The Contractor will perform an investigation into the root cause of the accident, incident, or near miss. Within 24 hours of an accident, incident, or near miss, the Contractor will prepare and submit to the RE a written investigation report detailing findings, corrective actions, and hazard mitigation implementation to prevent recurrence.
21. Notify the RE within two (2) hours of the start of an inspection by any outside regulatory agency personnel, including OSHA, NYC DOB, or others.
22. Maintain all records pertaining to all required safety compliance documents, accidents and incidents reports. DDC reserves the right to request copy of any records pertaining to the safety of the project and required by DDC and other federal, state, and city agencies, including but not limited to permits, training records, safety inspection records, drawings, equipment records, etc.
23. Cooperate with DDC Office of Construction Safety/ RE and address DDC recommendations on safety, which will in no way relieve the Contractor of its responsibilities for safety on the project. The Contractor has sole responsibility for safety.

V. SAFETY QUESTIONNAIRE

DDC requires that all Contractors provide information regarding their current and past safety performance and programs. This will be accomplished by the use of the DDC Safety Questionnaire. As a part of the bid submittal package, the contractor will submit a completed DDC Safety Questionnaire listing company workers' compensation experience modification rating and OSHA Incident Rates for the three (3) years prior to the date of the bid opening. DDC may request a Contractor to update its Questionnaire at any time or to provide more detailed information. The Contractor will provide the requested information within 15 days.

The following criteria will be used by DDC in reviewing the Contractor's responsibility, which will be based on the information provided on the questionnaire:

Criteria 1: OSHA Injury and Illness Rates (I&IR) are no greater than the average for the industry (based on the most current Bureau of Labor Statistics data for the Contractors SIC code); and

Criteria 2: Insurance workers compensation Experience Modification Rate (EMR) equal to or less than 1.0; and

Criteria 3: Any willful violations issued by OSHA or NYC DOB within the last three (3) years; and

Criteria 4: A fatality (worker or member of public) and injuries, requiring OSHA notification, experienced on or near Contractor's worksite within the last three (3) years; and

Criteria 5: Past safety performance on DDC projects (accidents; status of site safety plan submittals; etc.)

Criteria 6: OSHA violation history for the last three (3) years;

Criteria 7: Contractor will provide OSHA Injury and Illness Records (currently OSHA 300 and 300A Logs) for the last three (3) years.

If the Contractor fails to meet the basic criteria listed above, the Office of Construction Safety may request, through the ACCO, more details concerning the Contractor's safety experience. DDC may request the Contractor to provide copies of, among other things, accident investigation reports, OSHA records, OSHA and NYC DOB citations, EPA citations and written corrective action plan.

VI. SITE SAFETY PLAN

Within thirty (30) days from the Award Date or as otherwise directed, the Contractor will submit the Site Safety Plan. The Site Safety Plan will identify project work scope, safety hazards associated with the project tasks, and include specific safety procedures and training appropriate and necessary to complete the work. The Site Safety Plan is subject to review and acceptance by the Office of Construction Safety prior to the commencement of work at the site. Due to the project work scope and project duration, the Office of Construction Safety may grant a conditional acceptance for a Site Safety Plan without all sections being complete. In a case of a "Conditional Acceptance" of a Site Safety Plan,

the Contractor will provide the remaining sections previously incomplete and/or not submitted for review and acceptance by the Office of Construction Safety prior to the commencement of the construction activities. The Office of Construction Safety reserves the right to withdraw the initial "Conditional Acceptance" if the Contractor fails to provide the remaining sections of a Site Safety Plan. Failure by the Contractor to submit an acceptable Site Safety Plan will be grounds for default.

Site Safety Plan requirements: The Site Safety Plan will be a written document and will apply to all project specific Contractor and subcontractor operations, and will have at a minimum, the following elements with each described in a separate section (It may be necessary to modify the basic format for certain unique or high-risk projects, such as tunnels or high-rise construction). All Site Safety Plan sections will be numbered in the order listed below. For sections, which are not applicable for the type of the work being performed by the Contractor on DDC project, the Contractor will in writing indicate "Not applicable based on the project work scope." The Site Safety Plan will include Contractor's name, DDC project ID, project location (s), and development and revision dates. The Site Safety Plan will include the sections, attachments, and appendixes provided in the Site Safety Plan. All pages of the Site Safety Plan will be numbered. If requested by the Office of Construction Safety, the Site Safety Plan must be developed and submitted for approval using a web-based system, the Site Safety Plan Application (SSP App).

1. Project Work Scope – Detailed information regarding work tasks that will be performed by Contractor and subcontractors under the project.
2. Responsibility and Organization – Contractor's organization chart with responsible personnel for the project, including titles, names, contact information, roles, and responsibilities. All Contractor's personnel required by the DDC Safety Requirements will be identified.
3. Safety Training and Education – OSHA 10 Hours training, requirements for daily safety briefings and weekly safety meetings, any work task specific training, responsible staff for implementation of training program for the project.
4. Job Hazard Analysis (JHA) – Project specific Job Hazard Analysis including work tasks, identified hazards, hazard control methods (administrative, engineering, PPE) to protect workers, property and general public, Contractor's name, project id, location, name and signature of a certifying person, hazard assessment date.
5. Protection of Public – Project specific procedures covering safety of the general public during all project construction activities.
6. Hazard Corrective Actions - Procedures for hazard identification, including responsible person(s), frequency of safety inspections, implementation of corrective actions, safety inspection checklist.
7. Accident/Exposure Investigation – Project specific procedures for accident/incident/near miss investigation and implementation of corrective actions. Accident/incident/near miss notification procedure of DDC project staff (timer frame and responsible personnel).
8. Recording and Reporting Injuries – Procedures to meet 29 CFR 1904 requirements.
9. First Aid and Medical Attention – Responsible staff, location and inspection of First Aid kit, directions to local hospitals; emergency telephone numbers.
10. Project Specific Fire Protection and Prevention Program – Project specific procedures, including responsible staff, fire alarm system/methods, hot work procedures, etc.
11. Housekeeping Procedure.
12. Project Specific Illumination Procedure.
13. Project Specific Sanitation Procedure.
14. Personal Protective Equipment (PPE), including Respiratory Protection Program and Hearing Conservation Program, if required.
15. Hazard Communication Program – Contractor's Hazard Communication Program, responsible staff; training; SDS records, project specific list of chemicals; location of the program and SDS records.
16. Means of Egress – Information regarding free and unobstructed egress from all parts of the building or structure; exit marking; maintenance of means of egress, etc.
17. Employee Emergency Action Plan – Project specific: responsible staff, emergency alarm system/devices, evacuation procedure, procedure to account for employees after evacuation, etc.
18. Evacuation Plan – Project specific evacuation plan (drawing/scheme) with exists and evacuation routes.
19. Ionizing/Nonionizing Radiation – Competent person, license and qualification requirements, type of radiation, employee's exposure and protection, safety procedures, etc.

20. Material Handling, Storage, Use and Disposal – Project specific information regarding material storage, disposal, and handling: procedures, plan/drawings, etc.
21. Signs, Signals, and Barricades – Use of danger/warning signs, safety instruction signs, sidewalk closure and pedestrian fencing and barricades (if not included in the MPT plan), etc.
22. Tools – Hand and Power – Safety procedures for the type of tools to be used.
23. Scaffold – Project specific scaffold types, procedures, training requirements, scaffold drawings, designed, sealed, and signed by NYS Licensed Professional Engineer, or as otherwise directed; competent person, criteria for project specific scaffold, falling object protection, procedures for aerial lifts/scissor lifts.
24. Welding and Cutting – Project specific procedure for welding and cutting, including all necessary safety requirements such as fire prevention, personal protective equipment, hot work permits (if not covered by Contractor's Fire Prevention and Protection program, FDNY certificate requirements).
25. Electrical Safety – Project specific procedures, including lock out-tag out.
26. Fall Protection – Project specific information regarding selected fall protection systems, fall protection plan, responsible staff.
27. Cranes, Derrick, Hoists, Elevators, Conveyors – project specific equipment information including type, rated load capacity, manufacture specification requirements, competent person, exposure to falling load, inspection, recordkeeping, clearance requirements, communication procedure, ground lines, permits.
28. Excavation Safety – Competent person; excavation procedures; project specific protective system, including drawings, designed, sealed, and signed by NYS Licensed Professional Engineer, or as otherwise directed.
29. Protection of Underground Facilities and Utilities Procedure, including responsible staff and responsibilities.
30. Concrete and Masonry Construction Procedures
31. Maintenance and Protection of Traffic Plan – Project specific MPT plan, designed, sealed, and signed by NYS Licensed Professional Engineer, or as otherwise directed; flagmen training, public safety, etc.
32. Steel Erection – Site specific erection plan, requirements for applicable written notifications, competent person, fall protection plan, training requirements, etc.
33. Demolition – Engineering survey, including written evidence, disconnection of all effected utilities, identification of all hazardous chemicals, materials, gases, etc., floor openings, chutes, inspection and maintenance of all stairs/passageways, removal of materials/debris/structural elements, lock out/tag out, competent person.
34. Blasting and the Use of Explosives – Project specific safety procedures, warning signs, training/qualification, transportation, storage and use of explosives, inspection.
35. Stairways and Ladders – Types of stairs and ladders, safety procedures, training requirements.
36. Alcohol and Drug Abuse Policy
37. Rodents and Vermin Controls
38. Toxic and Hazardous Substances – Safety procedures for substances that Contractor's and subcontractor's employees can be exposed on project.
39. Noise Mitigation Plan – Completed project specific Noise Mitigation Plan, and noise mitigation procedures.
40. Confined Space Program – Project specific Confined Space Program, responsible staff, training records, equipment information, rescue procedure, list of project specific confined spaces, forms.
41. Construction Vehicles/Heavy Equipment – Type of construction vehicles/heavy equipment to be used on site, procedures
42. Dust Mitigation Plan – Completed project specific Dust Mitigation Plan, and dust mitigation procedures.
43. Working Over and Near Water. Diving Operations – safety procedures including personal protective equipment, fall protection, rescue services, etc.

The most critical component of the Site Safety Plan is the Job Hazard Analysis (JHA) section. The JHA form is a written document prepared by the Contractor. The Contractor will conduct a site and task assessment to identify the tasks and any potential safety or environmental hazards related to performance of the work, eliminate or implement controls for the potential hazards, and identify proper personal protective equipment for the task. The JHA will be communicated to all Contractor/subcontractor personnel on site. The JHA will include safety hazard identification and controls to protect employees, general public, and property.

The initial JHA will be included in the Contractor's Site Safety Plan and the current JHA form will be available at the construction site for reference. A JHA is a living document that will be re-evaluated and revised to address new hazards and tasks that may develop and will be present at the worksite and produced upon request.

VII. KICK-OFF MEETINGS/PRE-CONSTRUCTION AND SAFETY REVIEW

Prior to the start of construction activities on all DDC projects, RE will invite the Office of Construction Safety to the construction kick-off meeting. The Office of Construction Safety representative(s) will participate in this meeting with the Contractor and RE for the purpose of:

A. Reviewing DDC Contract Safety Requirements
B. Reviewing site-specific safety issues based on a project work scope, location, and any other factors which may impact safety of workers and general public.
C. Reviewing the Site Safety Plan and JHA requirements.
D. Reviewing Accident/Incident reporting and investigation procedures.
E. Reviewing designated safety contacts, roles, and responsibilities.
F. Discussing planned inspections and audits of the site by the Office of Construction Safety personnel.

VIII. EVALUATION DURING WORK IN PROGRESS

The Contractor's adherence to these Safety Requirements will be monitored throughout the project. This will be accomplished by the following:

A. Use of a safety checklist by a representative of the Office of Construction Safety (or other designated DDC representative) and the RE during regular inspections and comprehensive audits of the job site. Field Exit Conferences will be held with the RE and Contractor Project Safety Representatives.
B. The RE will continually monitor the safety and environmental performance of the Contractor's employees and work methods. Deficiencies will be brought to the attention of the Contractor's Project Safety Representative on site for immediate correction. The RE will maintain a written record of these deficiencies and have these records available upon request. Any critical deficiencies will be immediately reported to the Office of Construction Safety via telephone (718)391-1911.
C. If the Contractor's safety performance during the project is not up to DDC standards (safety performance measure, accident/incident rate, etc.) the Director – Office of Construction Safety, or his/her designee will meet with the Contractor's Project Safety Representative and other representatives, the RE, and the DDC Environmental Specialist (if environmental issues are involved). The purpose of this meeting is to 1) determine the level of non-compliance; 2) explain and clarify the safety/environmental provisions; 3) agree on a future course of action to correct the deficiencies.
D. If the deficiencies continue, the Commissioner may, without limitation, declare the Contractor in default.
E. The Contractor will within 1 hour inform the RE of all accidents/incidents/near misses including all fatalities, any injuries to employees or members of the general public, and property damage (e.g., structural damage, equipment rollovers, utility damage, loads dropped from crane). The RE will notify the Office of Construction Safety as per DDC's Construction Safety Emergency and Accident Notification and Response Procedure and will maintain a record of all Contractor accidents/incidents for the project.
F. The Contractor and the RE will notify the Office of Construction Safety within two (2) hours of the start of any NYS-DOL/ NYC-COSH/ OSHA/ EPA inspections.

IX. SAFETY PERFORMANCE EVALUATION

The Contractor's safety record, including accident/incident history and DDC safety inspection results, will be considered as part of the Contractor's performance evaluation at the conclusion of the project. Poor safety performance during the course of the project will be a reason to rate a Contractor unsatisfactory which may be reflected in the City's PASSPort system and will be considered for future procurement actions as set forth in the City's Procurement Policy Board Rules.

NOTICE TO BIDDERS

Please be advised that the following Riders to the March 2017 New York City Standard Construction Contract have been attached and incorporated in this Invitation for Bid:

- Rider regarding Non-Compensable Delays and Grounds for Extension;
- Rider regarding NYC Earned Safe and Sick Time Act;
- Rider regarding City Fleet and Truck Safety Requirements for City Contractors.

Other than provisions specifically delineated in the Riders, all other terms of the March 2017 New York City Standard Construction Contract continue to apply in full force and effect.

RIDER TO NEW YORK CITY STANDARD CONSTRUCTION CONTRACT (MARCH 2017) REGARDING NON-COMPENSABLE DELAYS AND GROUNDS FOR EXTENSION

The following provisions supersede the corresponding provisions in the March 2017 version of the New York City Standard Construction Contract:

1. Section **11.5.1** provides as follows:

   11.5.1 The acts or omissions of public or government bodies (other than **City** agencies) or of any third parties who are disclosed in the **Contract Documents,** or those third parties who are ordinarily encountered or who are generally recognized as related to the **Work**, including but not limited to, **Other Contractors**, utilities or private enterprises;

2. Section **11.5.6** provides as follows:

   11.5.6 Climatic conditions, storms, floods, droughts, tidal waves, fires, hurricanes, earthquakes, landslides or other catastrophes or acts of God; acts of war or of the public enemy or terrorist acts; disruption, outage or power failure caused by a utility's inability or failure to provide service, pandemics, epidemics, outbreaks of infectious disease or any other public health emergency; other states of emergency declared by the City, State or Federal government , quarantine restrictions, and freight embargoes; including the **City's** reasonable responses to any of the above; and

3. Section **13.3** provides as follows:

   13.3 Grounds for Extension: If such application is made, the **Contractor** shall be entitled to an extension of time for delay in completion of the **Work** caused solely:

   13.3.1 By any of the acts or omissions of the **City**, its officials, agents or employees set forth in Articles **11.4.1.1** through **11.4.1.9**; or

   13.3.2 By or attributable to any of the items set forth in Articles **11.5.1** through **11.5.7**.

   13.3.3 The **Contractor** shall, however, be entitled to an extension of time for such causes only for the number of **Days** of delay which the **ACCO** or the Board may determine to be due solely to such causes, and then only if the **Contractor** shall have strictly complied with all of the requirements of Articles 9 and 10.

NYC EARNED SAFE AND SICK TIME ACT CONTRACT RIDER

(To supersede Section 4.06 of the January 2018 Appendix A and Section 35.5 of the March 2017 Standard Construction Contract and to be attached to other City contracts and solicitations)

A. *Introduction and General Provisions.*

1. The Earned Safe and Sick Time Act ("ESSTA"), codified at Title 20, Chapter 8 of the New York City Administrative Code, also known as the "Paid Safe and Sick Leave Law," requires covered employees (as defined in Admin. Code § 20-912) in New York City ("City") to be provided with paid safe and sick time. Contractors of the City or of other governmental entities may be required to provide safe and sick time pursuant to the ESSTA. The ESSTA is enforced by the City's Department of Consumer and Worker Protection ("DCWP"), which has promulgated 6 RCNY §§ 7-101 and 201 *et seq*. ("DCWP Rules").

2. The Contractor agrees to comply in all respects with the ESSTA and the DCWP Rules, and as amended, if applicable, in the performance of this agreement. The Contractor further acknowledges that such compliance is a material term of this agreement and that failure to comply with the ESSTA in performance of this agreement may result in its termination.

3. The Contractor must notify (with a copy to DCWP at ComplianceMonitoring@dcwp.nyc.gov) the Agency Chief Contracting Officer of the City Agency or other entity with whom it is contracting in writing within 10 days of receipt of a complaint (whether oral or written) or notice of investigation regarding the ESSTA involving the performance of this agreement. Additionally, the Contractor must cooperate with DCWP's guidance and must comply with DCWP's subpoenas, requests for information, and other document demands as set forth in the ESSTA and the DCWP Rules. More information is available at https://www1.nyc.gov/site/dca/about/paid-sick-leave-what-employers-need-to-know.page.

4. Upon conclusion of a DCWP investigation, Contractor will receive a findings letter detailing any employee relief and civil penalties owed. Pursuant to the findings, Contractor will have the opportunity to settle any violations and cure the breach of this agreement caused by failure to comply with the ESSTA either i) without a trial by entering into a consent order or ii) appearing before an impartial judge at the City's administrative tribunal. In addition to and notwithstanding any other rights and remedies available to the City, non-payment of relief and penalties owed pursuant to a consent order or final adjudication within 30 days of such consent order or final adjudication may result in the termination of this agreement without further opportunity to settle or cure the violations.

5. The ESSTA is briefly summarized below for the convenience of the Contractor. The Contractor is advised to review the ESSTA and the DCWP Rules in their entirety. The Contractor may go to www.nyc.gov/PaidSickLeave for resources for employers, such as Frequently Asked Questions, timekeeping tools and model forms, and an event calendar of upcoming presentations and webinars at which the Contractor can get more information about how to comply with the ESSTA and the DCWP Rules. The Contractor acknowledges that it is responsible for compliance with the ESSTA and the DCWP Rules notwithstanding any inconsistent language contained herein.

B. *Pursuant to the ESSTA and DCWP Rules: Applicability, Accrual, and Use.*

1. An employee who works within the City must be provided paid safe and sick time.[1] Employers with one hundred or more employees are required to provide 56 hours of safe and sick time for an employee each calendar year. Employers with fewer than one hundred employees are required to provide 40 hours of sick leave each calendar year. Employers must provide a minimum of one hour of safe and sick time for every 30 hours worked by an employee and compensation for such safe and sick time must be provided at the greater of the employee's regular hourly rate or the minimum wage at the time the paid safe or sick time is taken. Employers are not discouraged or prohibited from providing more generous safe and sick time policies than what the ESSTA requires.

2. Employees have the right to determine how much safe and sick time they will use, provided that an employer may set a reasonable minimum increment for the use of safe and sick time not to exceed four hours per day. For the use of safe time or sick time beyond the set minimum increment, an employer may set fixed periods of up to thirty minutes beyond the minimum increment. In addition, an employee may carry over up to 40 or 56 hours of unused safe and sick time to the following calendar year, provided that no employer is required to carry over unused paid safe and sick time if the employee is paid for such unused safe and sick time and the employer provides the employee with at least the legally required amount of paid safe and sick time for such employee for the immediately subsequent calendar year on the first day of such calendar year.

3. An employee entitled to safe and sick time pursuant to the ESSTA may use safe and sick time for any of the following:

a. such employee's mental illness, physical illness, injury, or health condition or the care of such illness, injury, or condition or such employee's need for medical diagnosis or preventive medical care;

b. such employee's care of a family member (an employee's child, spouse, domestic partner, parent, sibling, grandchild, or grandparent, the child or parent of an employee's spouse or domestic partner, any other individual related by blood to the employee, and any other individual whose close association with the employee is the equivalent of a family relationship) who has a mental illness, physical illness, injury or health condition or who has a need for medical diagnosis or preventive medical care;

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[1] Pursuant to the ESSTA, if fewer than five employees work for the same employer, and the employer had a net income of less than one million dollars during the previous tax year, such employer has the option of providing such employees uncompensated safe and sick time.

c. closure of such employee's place of business by order of a public official due to a public health emergency;

d. such employee's need to care for a child whose school or childcare provider has been closed due to a public health emergency; or

e. when the employee or a family member has been the victim of a family offense matter, sexual offense, stalking, or human trafficking:

1. to obtain services from a domestic violence shelter, rape crisis center, or other shelter or services program for relief from a family offense matter, sexual offense, stalking, or human trafficking;
2. to participate in safety planning, temporarily or permanently relocate, or take other actions to increase the safety of the employee or employee's family members from future family offense matters, sexual offenses, stalking, or human trafficking;
3. to meet with a civil attorney or other social service provider to obtain information and advice on, and prepare for or participate in any criminal or civil proceeding, including but not limited to, matters related to a family offense matter, sexual offense, stalking, human trafficking, custody, visitation, matrimonial issues, orders of protection, immigration, housing, discrimination in employment, housing or consumer credit;
4. to file a complaint or domestic incident report with law enforcement;
5. to meet with a district attorney's office;
6. to enroll children in a new school; or
7. to take other actions necessary to maintain, improve, or restore the physical, psychological, or economic, health or safety of the employee or the employee's family member or to protect those who associate or work with the employee.

4. An employer must not require an employee, as a condition of taking safe and sick time, to search for a replacement. However, where the employee's need for safe and sick time is foreseeable, an employer may require an employee to provide reasonable notice of the need to use safe and sick time. For an absence of more than three consecutive work days, an employer may require reasonable documentation that the use of safe and sick time was needed for a reason listed in Admin. Code § 20-914; and/or written confirmation that an employee used safe and sick time pursuant to the ESSTA. However, an employer may not require documentation specifying the nature of a medical condition, require disclosure of the details of a medical condition, or require disclosure of the details of a family offense matter, sexual offense, stalking, or human trafficking, as a condition of providing safe and sick time. Health information and information concerning family offenses, sexual offenses, stalking or human trafficking obtained solely due to an

employee's use of safe and sick time pursuant to the ESSTA must be treated by the employer as confidential. An employer must reimburse an employee for all reasonable costs or expenses incurred in obtaining such documentation for the employer.

5. An employer must provide to all employees a written policy explaining its method of calculating sick time, policies regarding the use of safe and sick time (including any permissible discretionary conditions on use), and policies regarding carry-over of unused time at the end of the year, among other topics. It must provide the policy to employees using a delivery method that reasonably ensures that employees receive the policy. If such employer has not provided its written policy, it may not deny safe and sick time to an employee because of non-compliance with such a policy.

6. An employer must provide a pay statement or other form of written documentation that informs the employee of the amount of safe/sick time accrued and used during the relevant pay period and the total balance of the employee's accrued safe/sick time available for use.

7. Safe and sick time to which an employee is entitled must be paid no later than the payday for the next regular payroll period beginning after the safe and sick time was used.

C. *Exemptions and Exceptions*. Notwithstanding the above, the ESSTA does not apply to any of the following:

1. an independent contractor who does not meet the definition of employee under N.Y. Labor Law § 190(2);

2. an employee covered by a valid collective bargaining agreement, if the provisions of the ESSTA are expressly waived in such agreement and such agreement provides a benefit comparable to that provided by the ESSTA for such employee;

3. an audiologist, occupational therapist, physical therapist, or speech language pathologist who is licensed by the New York State Department of Education and who calls in for work assignments at will, determines their own schedule, has the ability to reject or accept any assignment referred to them, and is paid an average hourly wage that is at least four times the federal minimum wage;

4. an employee in a work study program under Section 2753 of Chapter 42 of the United States Code;

5. an employee whose work is compensated by a qualified scholarship program as that term is defined in the Internal Revenue Code, Section 117 of Chapter 20 of the United States Code; or

6. a participant in a Work Experience Program (WEP) under N.Y. Social Services Law § 336-c.

D. *Retaliation Prohibited.* An employer shall not take any adverse action against an employee that penalizes the employee for, or is reasonably likely to deter the employee from or interfere with the employee exercising or attempting in good faith to exercise any right provided by the ESSTA. In addition, an employer shall not interfere with any investigation, proceeding, or hearing pursuant to the ESSTA.

E. *Notice of Rights.*

1. An employer must provide its employees with written notice of their rights pursuant to the ESSTA. Such notice must be in English and the primary language spoken by an employee, provided that DCWP has made available a translation into such language. Downloadable notices are available on DCWP's website at https://www1.nyc.gov/site/dca/about/Paid-Safe-Sick-Leave-Notice-of-Employee-Rights.page. The notice must be provided to the employees by a method that reasonably ensures personal receipt by the employee.

2. Any person or entity that willfully violates these notice requirements is subject to a civil penalty in an amount not to exceed $50.00 for each employee who was not given appropriate notice.

F. *Records*. An employer must retain records documenting its compliance with the ESSTA for a period of at least three years, and must allow DCWP to access such records in furtherance of an investigation related to an alleged violation of the ESSTA.

G. *Enforcement and Penalties.*

1. Upon receiving a complaint alleging a violation of the ESSTA, DCWP must investigate such complaint. DCWP may also open an investigation to determine compliance with the ESSTA on its own initiative. Upon notification of a complaint or an investigation by DCWP, the employer must provide DCWP with a written response and any such other information as DCWP may request. If DCWP believes that a violation of the ESSTA has occurred, it has the right to issue a notice of violation to the employer .

2. DCWP has the power to grant an employee or former employee all appropriate relief as set forth in Admin. Code § 20-924(d). Such relief may include, but is not limited to, treble damages for the wages that should have been paid; statutory damages for unlawful retaliation; and damages, including statutory damages, full compensation for wages and benefits lost, and reinstatement, for unlawful discharge. In addition, DCWP may impose on an employer found to have violated the ESSTA civil penalties not to exceed $500.00 for a first violation, $750.00 for a second violation within two years of the first violation, and $1,000.00 for each succeeding violation within two years of the previous violation. When an employer has a policy or practice of not providing or refusing to allow the use of safe and sick time to its employees, DCWP may seek penalties and relief on a per employee basis.

3. Pursuant to Admin. Code § 20-924.2, (a) where reasonable cause exists to believe that an employer is engaged in a pattern or practice of violations of the ESSTA, the Corporation Counsel may commence a civil action on behalf of the City in a court of competent jurisdiction by filing a complaint setting forth facts relating to such pattern or practice and requesting relief, which may include injunctive relief, civil penalties and any other appropriate relief. Nothing in § 20-924.2 prohibits DCWP from exercising its authority under section 20-924 or the Charter, provided that a civil action pursuant to § 20-924.2 shall not have previously been commenced.

H. *More Generous Polices and Other Legal Requirements.* Nothing in the ESSTA is intended to discourage, prohibit, diminish, or impair the adoption or retention of a more generous safe and sick time policy, or the obligation of an employer to comply with any contract, collective bargaining agreement, employment benefit plan or other agreement providing more generous safe and sick time. The ESSTA provides minimum requirements pertaining to safe and sick time and does not preempt, limit, or otherwise affect the applicability of any other law, regulation, rule, requirement, policy or standard that provides for greater accrual or use by employees of safe and sick leave or time, whether paid or unpaid, or that extends other protections to employees. The ESSTA may not be construed as creating or imposing any requirement in conflict with any federal or state law, rule or regulation.

New York City Mayoral Executive Order No. 39 Rider

City Fleet and Truck Safety Requirements for City Contractors

Version: 11/19/24

Section 1.01 Background

This rider is included in the Agreement and made a part thereof pursuant to the provisions of Mayoral Executive Order 39 of 2024.

Section 1.02 Definitions

A. Capitalized terms not otherwise defined in this rider shall have the meaning ascribed to them in the Agreement.

B. Agreement: The agreement between the City and the Contractor, to which this rider has been added and made a part.

C. City-contracted Vehicle means a Truck (as hereinafter defined) or any other motor vehicle that the Contractor anticipates providing in accordance with this Agreement or using in performing its obligations under this Agreement on a weekly or more frequent basis[1]. This includes those vehicles anticipated to be provided or used by subcontractors to fulfill the scope of a subcontract for work to be performed under a contract that is subject to the Executive Order, regardless of monetary value of the subcontract, if the vehicle is utilized on a weekly or more frequent basis.

D. Contracting Agency: the City agency or office through which the City of New York has entered into this Agreement.

[1] The following vehicles are not considered City-contracted vehicles and are thus not subject to Executive Order 39: any motor vehicle or truck that is utilized pursuant to (1) contracts registered prior to July 1, 2024, including the renewal, extension, or modification of such contracts; (2) an agency on-call emergency contract; (3) an emergency procurement made pursuant to section 3-06 of title 9 of the Rules of the City of New York or pursuant to an executive order of the Mayor or Governor issued under section 24 or section 29-A of the New York State Executive Law; (4) intergovernmental contracts; (5) government-to-government contracts between the City and any State or Federal government agency; and (6) a contract for utilities, as identified in subdivision (b) of section 825 of the New York City Charter.

E. Contractor: the entity providing services under this Agreement.

F. Executive Order: Mayoral Executive Order 39 of 2024, as it may be amended.

G. High Vision Truck: A Truck with a cab-over or cab-forward design wherein the driver sits in front of the front axle as opposed to conventional cab design wherein the engine and front axle are in front of the driver. The distance from the forward of the center of the vehicle bumper at which the driver can see the top of a 3-foot cone shall not exceed eight feet and the distance beyond the exterior of the passenger side door at which the driver can first see the top of the 4-foot cone shall not exceed six feet.

H. Registration: Registration of this Agreement pursuant to Section 328 of the New York City Charter.

I. Telematics: Automatic vehicle location systems that track vehicle location and speed and alert the driver and another designated person(s) to such location and speed in real time.

J. Truck: A City-contracted Vehicle with a manufacturer's gross vehicle weight rating exceeding 10,000 pounds. The term does not include off-road construction vehicles.

K. Truck Surround Cameras: A system of cameras, sensors, and alerts placed on a Truck that provides a Truck operator with a full view of all four sides of the Truck.

L. Vehicle Safety Plan: A plan with regard to City-contracted Vehicles, approved by the Contracting Agency, that includes the components listed in Section 2.03(A) through (F) of this rider.

Section 2.01 Vehicle Requirements

All City-contracted Vehicles shall conform to the following requirements:

A. Truck Surround Cameras: All Trucks, other than High Vision Trucks, shall be outfitted with truck surround cameras in accordance with the following schedule:
   a. Contracts involving 10 or fewer Trucks: No later than 12 months from Registration.
   b. Contracts involving more than 10 Trucks: No later than 18 months from Registration.
   c. New or replacement Truck acquired after work under this Agreement has begun: Truck must be outfitted with Truck Surround Cameras within 12 months from the date of first using such Truck.
   d. Contractor must submit to the Contracting Agency photographic and purchase order evidence, that is satisfactory to the Contracting Agency, of compliance with this Paragraph (A).

B. Truck Side-guards: Contractor shall provide side-guards for City-contracted Vehicles as applicable pursuant to Section 6-141 of the New York City Administrative Code.

C. Telematics: All City-contracted Vehicles must be installed with Telematics. Data gathered by Telematics must be made available in a manner that is satisfactory to the Contracting Agency.

Section 2.02 Safety Requirements

Contractor shall provide the following:

A. Licensing: Contractors shall ensure proper licensing for all drivers who operate City-contracted Vehicles. Contractors shall ensure that all drivers operating City-contracted Vehicles are enrolled in the New York State License Notification System (LENS) and that all out-of-state licenses are being monitored by Contractor. Contractor must notify the Contracting Agency of any license suspensions and/or arrests tied to unsafe or illegal vehicle operation by any drivers of City-contracted Vehicles.

B. Training: Contractor must provide the Contracting Agency documentation, satisfactory to the Contracting Agency, showing:
    a. That all drivers of City-contracted Vehicles have taken a New York State approved defensive driving class within six months after Registration; or
    b. That all drivers of City-contracted Vehicles have attended a New York State-approved defensive driving class within 3 years prior to Registration; or
    c. That all drivers of City-contracted Vehicles have received alternative safe driver training acceptable to the Contracting Agency that is documented to the satisfaction of the Contracting agency.

C. Crash tracking: Contractors must notify the Contracting Agency of any and all collisions that take place involving City-contracted Vehicles while performing services under this Agreement.

Section 2.03 Vehicle Safety Plan

Within one month after Registration, the Contractor must submit, for review and approval, to Contracting Agency, at the address set forth in the Agreement for notices to the City, and DCAS Fleet (C/O Chief Fleet Management Officer, 23rd Floor South, Municipal Building, 1 Centre Street, NY, NY 10007) a proposed vehicle safety plan that shall include at the minimum the components listed in Paragraphs (A) through (E) below. If directed by the Contracting Agency,

Contractor shall revise said proposed vehicle safety plan in accordance with the directions of the Contracting Agency, and until the Contracting Agency issues its approval thereof, Contractor shall submit a revised proposed vehicle safety plan to the Contracting Agency in each case, within 15 days after receipt by Contractor of directions to that effect from the Contracting Agency. Upon approval of the proposed vehicle safety plan, said proposed plan shall be considered the Vehicle Safety Plan and Contractor shall comply with the terms thereof. Each second anniversary of the approval of the Vehicle Safety Plan the Contractor shall submit an update thereof. The Vehicle Safety Plan shall include at the minimum the following components:

A. Vehicle List: List of City-contracted Vehicles, including the year, make, model, VIN and license plate number of each City-contracted Vehicle;

B. Safety Training: Documentation showing that all drivers of City-contracted Vehicles have completed the training detailed in section 2.02(B) of this Rider;

C. Technology: A list of all relevant technology investments installed on City-contracted vehicles, including but not limited to the technology listed in section 2.01 of this Rider;

D. Crash Tracking: An explanation of Contractor's process of monitoring and reviewing collisions including plans to notify Contracting Agency of collisions that take place while performing services under this Agreement;

E. Corrective Action: A corrective action program for drivers of City-contracted Vehicles that engage in unsafe or dangerous driving behaviors and license monitoring; and

F. Additional Safety Measures: Contractor must indicate if there are any additional safety technologies, safety practices, training, or other procedures that are utilized for City-contracted Vehicles during the term of this Agreement.

Section 3.01 Liquidated Damages

A. Contractor acknowledges that its failure to comply with the provisions of this Vehicle Safety Plan will cause loss and damage to the City, the precise extent of which is difficult to ascertain in monetary terms. For this reason, the parties desire to provide fair and reasonable compensation to the City for such losses, which compensation shall not be construed as a penalty. It is therefore agreed that, in addition to any other liquidated damages that the Contractor shall be required to pay to the City in accordance with the provisions of the Agreement, Contractor shall pay to the City the following:
    a. The sum of $500.00 for each instance of a failure by the Contractor to submit a Vehicle Safety Plan in accordance with the provisions of Section 2.03.

b. The sum of $500.00 for each instance of a failure by the Contractor to comply with the provisions of Section 2.02(A) [Licensing].
c. The sum of $500.00 for each instance of a failure by the Contractor to comply with the provisions of Section 2.02(B) [Training].
d. The sum of $500.00 for each instance of a failure by the Contractor to comply with the provisions of Section 2.02(C) [Crash Tracking].
e. The sum of $500.00 for each instance of a failure by the Contractor to comply with the provisions of Section 2.01(C) [Telematics].
f. The sum of $3,000 for each instance of a failure by the Contractor to comply with the provisions of Section 2.01(A).
g. The Contracting Agency will provide at least 5 working days of notice to the Contractor and opportunity to rectify before implementing these liquidated damages.

B. Liquidated damages received pursuant to this Agreement are not intended to be nor shall they be treated as either a partial or full waiver or discharge of the City's right to indemnification, or the Contractor's obligation to indemnify the City, or to any other remedy provided for in this Agreement or by Law. The City may deduct and retain out of the monies which may become due under this Agreement, the amount of any such liquidated damages; and in case the amount which may become due hereunder shall be less than the amount of liquidated damages suffered by the City, the Contractor shall be liable to pay the difference.

CITY OF NEW YORK

STANDARD CONSTRUCTION CONTRACT

March 2017

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CITY OF NEW YORK STANDARD CONSTRUCTION CONTRACT

TABLE OF CONTENTS

(NO TEXT ON THIS PAGE) 6
CHAPTER I: THE CONTRACT AND DEFINITIONS 7
ARTICLE 1. THE CONTRACT 7
ARTICLE 2. DEFINITIONS 7
CHAPTER II: THE WORK AND ITS PERFORMANCE 10
ARTICLE 3. CHARACTER OF THE WORK 10
ARTICLE 4. MEANS AND METHODS OF CONSTRUCTION 10
ARTICLE 5. COMPLIANCE WITH LAWS 11
ARTICLE 6. INSPECTION 16
ARTICLE 7. PROTECTION OF WORK AND OF PERSONS AND PROPERTY; NOTICESAND INDEMNIFICATION 17
CHAPTER III: TIME PROVISIONS 18
ARTICLE 8. COMMENCEMENT AND PROSECUTION OF THE WORK 18
ARTICLE 9. PROGRESS SCHEDULES 18
ARTICLE 10. REQUESTS FOR INFORMATION OR APPROVAL 19
ARTICLE 11. NOTICE OF CONDITIONS CAUSING DELAY AND DOCUMENTATION OF DAMAGES CAUSED BY DELAY 19
ARTICLE 12. COORDINATION WITH OTHER CONTRACTORS 23
ARTICLE 13. EXTENSION OF TIME FOR PERFORMANCE 24
ARTICLE 14. COMPLETION AND FINAL ACCEPTANCE OF THE WORK 27
ARTICLE 15. LIQUIDATED DAMAGES 28
ARTICLE 16. OCCUPATION OR USE PRIOR TO COMPLETION 29
CHAPTER IV: SUBCONTRACTS AND ASSIGNMENTS 29
ARTICLE 17. SUBCONTRACTS 29
ARTICLE 18. ASSIGNMENTS 31
CHAPTER V: CONTRACTOR'S SECURITY AND GUARANTEE 32
ARTICLE 19. SECURITY DEPOSIT 32
ARTICLE 20. PAYMENT GUARANTEE 32
ARTICLE 21. RETAINED PERCENTAGE 35
ARTICLE 22. INSURANCE 35
ARTICLE 23. MONEY RETAINED AGAINST CLAIMS 41
ARTICLE 24. MAINTENANCE AND GUARANTY 42
CHAPTER VI: CHANGES, EXTRA WORK, AND DOCUMENTATION OF CLAIM 43
ARTICLE 25. CHANGES 43
ARTICLE 26. METHODS OF PAYMENT FOR OVERRUNS AND EXTRA WORK 43
ARTICLE 27. RESOLUTION OF DISPUTES 46
ARTICLE 28. RECORD KEEPING FOR EXTRA OR DISPUTED WORK OR WORK ON ATIME & MATERIALS BASIS 50
ARTICLE 29. OMITTED WORK 51
ARTICLE 30. NOTICE AND DOCUMENTATION OF COSTS AND DAMAGES;PRODUCTION OF FINANCIAL RECORDS 51
CHAPTER VII: POWERS OF THE RESIDENT ENGINEER, THE ENGINEER ORARCHITECT

AND THE COMMISSIONER 52
ARTICLE 31. THE RESIDENT ENGINEER 52
ARTICLE 32. THE ENGINEER OR ARCHITECT OR PROJECT MANAGER 53
ARTICLE 33. THE COMMISSIONER 53
ARTICLE 34. NO ESTOPPEL 54
CHAPTER VIII: LABOR PROVISIONS 54
ARTICLE 35. EMPLOYEES 54
ARTICLE 36. NO DISCRIMINATION 61
ARTICLE 37. LABOR LAW REQUIREMENTS 63
ARTICLE 38. PAYROLL REPORTS 68
ARTICLE 39. DUST HAZARDS 69
CHAPTER IX: PARTIAL AND FINAL PAYMENTS 69
ARTICLE 40. CONTRACT PRICE 69
ARTICLE 41. BID BREAKDOWN ON LUMP SUM 69
ARTICLE 42. PARTIAL PAYMENTS 70
ARTICLE 43. PROMPT PAYMENT 70
ARTICLE 44. SUBSTANTIAL COMPLETION PAYMENT 71
ARTICLE 45. FINAL PAYMENT 72
ARTICLE 46. ACCEPTANCE OF FINAL PAYMENT 73
ARTICLE 47. APPROVAL BY PUBLIC DESIGN COMMISSION 73
CHAPTER X: CONTRACTOR'S DEFAULT 74
ARTICLE 48. COMMISSIONER'S RIGHT TO DECLARE CONTRACTOR IN DEFAULT 74
ARTICLE 49. EXERCISE OF THE RIGHT TO DECLARE DEFAULT 75
ARTICLE 50. QUITTING THE SITE 75
ARTICLE 51. COMPLETION OF THE WORK 75
ARTICLE 52. PARTIAL DEFAULT 76
ARTICLE 53. PERFORMANCE OF UNCOMPLETED WORK 76
ARTICLE 54. OTHER REMEDIES 76
CHAPTER XI: MISCELLANEOUS PROVISIONS 77
ARTICLE 55. CONTRACTOR'S WARRANTIES 77
ARTICLE 56. CLAIMS AND ACTIONS THEREON 77
ARTICLE 57. INFRINGEMENT 78
ARTICLE 58. NO CLAIM AGAINST OFFICIALS, AGENTS OR EMPLOYEES 78
ARTICLE 59. SERVICE OF NOTICES 78
ARTICLE 60. UNLAWFUL PROVISIONS DEEMED STRICKEN FROM CONTRACT 78
ARTICLE 61. ALL LEGAL PROVISIONS DEEMED INCLUDED 79
ARTICLE 62. TAX EXEMPTION 79
ARTICLE 63. INVESTIGATION(S) CLAUSE 80
ARTICLE 64. TERMINATION BY THE CITY 82
ARTICLE 65. CHOICE OF LAW, CONSENT TO JURISDICTION AND VENUE 85
ARTICLE 66. PARTICIPATION IN AN INTERNATIONAL BOYCOTT 85
ARTICLE 67. LOCALLY BASED ENTERPRISE PROGRAM 86
ARTICLE 68. ANTITRUST 87
ARTICLE 69. MacBRIDE PRINCIPLES PROVISIONS 87
ARTICLE 70. ELECTRONIC FILING/NYC DEVELOPMENT HUB 89
ARTICLE 71. PROHIBITION OF TROPICAL HARDWOODS 89
ARTICLE 72. CONFLICTS OF INTEREST 89

ARTICLE 73. MERGER CLAUSE 89
ARTICLE 74. STATEMENT OF WORK 89
ARTICLE 75. COMPENSATION TO BE PAID TO CONTRACTOR 90
ARTICLE 76. ELECTRONIC FUNDS TRANSFER 90
ARTICLE 77. RECORDS RETENTION 90
ARTICLE 78. EXAMINATION AND VIEWING OF SITE, CONSIDERATION OF OTHER SOURCES OF INFORMATION AND CHANGED SITE CONDITIONS 90
ARTICLE 79. PARTICIPATION BY MINORITY-OWNED AND WOMEN-OWNED BUSINESS ENTERPRISES IN CITY PROCUREMENT 91
PERFORMANCE BOND #1 99
PERFORMANCE BOND #2 103
PAYMENT BOND 107

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WITNESSETH:

The parties, in consideration of the mutual agreements contained herein, agree as follows:

CHAPTER I: THE CONTRACT AND DEFINITIONS

ARTICLE 1. THE CONTRACT

1.1 Except for titles, subtitles, headings, running headlines, tables of contents and indices (all of which are printed herein merely for convenience), the following, except for such portions thereof as maybe specifically excluded, shall be deemed to be part of this **Contract**:

1.1.1 All provisions required by law to be inserted in this **Contract**, whether actuallyinserted or not;

1.1.2 The Contract Drawings and Specifications;

1.1.3 The General Conditions and Special Conditions, if any;

1.1.4 The **Contract**;

1.1.5 The Information for Bidders; Request for Proposals; Notice of Solicitation andProposal For Bids; Bid or Proposal, and, if used, the Bid Booklet;

1.1.6 All Addenda issued prior to the receipt of the bids; the Notice of Award; Performance and Payment Bonds, if required; and the Notice to Proceed or the Order to Work.

1.2 Should any conflict occur in or between the Drawings and Specifications, the **Contractor** shall be deemed to have estimated the most expensive way of doing the **Work**, unless the **Contractor** shall have asked for and obtained a decision in writing from the **Commissioner** of the **Agency** that is entering into this **Contract**, before the submission of its bid, as to what shall govern.

ARTICLE 2. DEFINITIONS

2.1 The following words and expressions, or pronouns used in their stead, shall, wherever they appear in this Contract, be construed as follows, unless a different meaning is clear from the context:

2.1.1 **"Addendum"** or **"Addenda"** shall mean the additional Contract provisions and/or technical clarifications issued in writing by the Commissioner prior to the receipt of bids.

2.1.2 **"Agency"** shall mean a city, county, borough or other office, position, department, division, bureau, board or commission, or a corporation, institution or agency of government, the expenses of which are paid in whole or in part from the City treasury.

2.1.3 **"Agency Chief Contracting Officer" (ACCO)** shall mean a person delegated authority by the Commissioner to organize and supervise the procurement activity of subordinate Agency staff in conjunction with the CCPO, or his/her duly authorized representative.

2.1.4 **"Allowance"** shall mean a sum of money which the Agency may include in the total amount of the Contract for such specific contingencies as the Agency believes may be necessary to complete the Work, *e.g.*, lead or asbestos remediation, and for which the Contractor will be paid on the basis of stipulated unit prices or a formula set forth in the Contract or negotiated between the parties provided, however, that if the Contractor is not directed to use the Allowance, the Contractor shall have no right to such money and it shall be deducted from the total amount of the Contract.

2.1.5 **"City"** shall mean the City of New York.

2.1.6 **"City Chief Procurement Officer" (CCPO)** shall mean a person delegated authority by the Mayor to coordinate and oversee the procurement activity of Mayoral agency staff, including the ACCO and any offices which have oversight responsibility for the procurement of construction, or his/her duly authorized representative.

2.1.7 **"Commissioner"** shall mean the head of the Agency that has entered into this Contract, or his/her duly authorized representative.

2.1.8 **"Comptroller"** shall mean the Comptroller of the City of New York.

2.1.9 **"Contract"** or **"Contract Documents"** shall mean each of the various parts of the contract referred to in Article 1 hereof, both as a whole and severally.

2.1.10 **"Contract Drawings"** shall mean only those drawings specifically entitled as such and listed in the Specifications or in any Addendum, or any drawings furnished by the Commissioner, pertaining or supplemental thereto.

2.1.11 **"Contract Work"** shall mean everything required to be furnished and done by the Contractor by any one or more of the parts of the Contract referred to in Article 1, except Extra Work as hereinafter defined.

2.1.12 **"Contractor"** shall mean the entity which executed this Contract, whether a corporation, firm, partnership, joint venture, individual, or any combination thereof, and its, their, his/her successors, personal representatives, executors, administrators, and assigns, and any person, firm, partnership, joint venture, individual, or corporation which shall at any time be substituted in the place of the Contractor under this Contract.

2.1.13 **"Days"** shall mean calendar days, except where otherwise specified.

2.1.14 **"Engineer"** or **"Architect"** or **"Project Manager"** shall mean the person so designated in writing by the Commissioner in the Notice to Proceed or the Order to Work to act as such in relation to this Contract, including a private Architect or Engineer or Project Manager, as the case may be. Subject to written approval by the Commissioner, the Engineer, Architect or Project Manager may designate an authorized representative.

2.1.15 **"Engineering Audit Officer" (EAO)** shall mean the person so designated by the Commissioner to perform responsible auditing functions hereunder.

2.1.16 **"Extra Work"** shall mean Work other than that required by the Contract at the time of award which is authorized by the Commissioner pursuant to Chapter VI of this Contract.

2.1.17 **"Federal-Aid Contract"** shall mean a contract in which the United States (federal) Government provides financial funding as so designated in the Information for Bidders.

2.1.18 **"Final Acceptance"** shall mean final written acceptance of all the Work by the Commissioner, a copy of which shall be sent to the Contractor.

2.1.19 **"Final Approved Punch List"** shall mean a list, approved pursuant to Article 14.2.2, specifying those items of Work to be completed by the Contractor after Substantial Completion and dates for the completion of each item of Work.

2.1.20 **"Law"** or **"Laws"** shall mean the Constitution of the State of New York, the New York City Charter, the New York City Administrative Code, a statute of the United States or of the State of New York, a local law of the City of New York, any ordinance, rule or regulation having the force of law, or common law.

2.1.21 **"Materialman"** shall mean any corporation, firm, partnership, joint venture, or individual, other than employees of the Contractor, who or which contracts with the Contractor or any Subcontractor, to fabricate or deliver, or who actually fabricates or delivers, plant, materials or equipment to be incorporated in the Work.

2.1.22 **"Means and Methods of Construction"** shall mean the labor, materials, temporary structures, tools, plant, and construction equipment, and the manner and time of their use, necessary to accomplish the result intended by this Contract.

2.1.23**"Notice to Proceed" or "Order to Work"** shall mean the written notice issued bythe Commissioner specifying the time for commencement of the Work and the Engineer, Architect or Project Manager.

2.1.24 **"Other Contractor(s)"** shall mean any contractor (other than the entity which executed this Contract or its Subcontractors) who or which has a contract with the City for work on or adjacent to the building or Site of the Work.

2.1.25 **"Payroll Taxes"** shall mean State Unemployment Insurance (SUI), Federal Unemployment Insurance (FUI), and payments pursuant to the Federal Insurance Contributions Act (FICA).

2.1.26 **"Project"** shall mean the public improvement to which this Contract relates.

2.1.27 **"Procurement Policy Board" (PPB)** shall mean the Agency of the City of New York whose function is to establish comprehensive and consistent procurement policies and rules which shall have broad application throughout the City.

2.1.28 **"Required Quantity"** in a unit price Contract shall mean the actual quantity of any item of Work or materials which is required to be performed or furnished in order to comply with the Contract.

2.1.29 **"Resident Engineer"** shall mean the representative of the Commissioner duly designated by the Commissioner to be his/her representative at the site of the Work.

2.1.30 **"Site"** shall mean the area upon or in which the Contractor's operations are carried on, and such other areas adjacent thereto as may be designated as such by the Engineer.

2.1.31 **"Small Tools"** shall mean items that are ordinarily required for a worker's job

function, including but not limited to, equipment that ordinarily has no licensing, insurance or substantive storage costs associated with it; such as circular and chain saws, impactdrills, threaders, benders, wrenches, socket tools, etc.

2.1.32 **"Specifications"** shall mean all of the directions, requirements, and standards of performance applying to the Work as hereinafter detailed and designated under the Specifications.

2.1.33 **"Subcontractor"** shall mean any person, firm or corporation, other than employees of the Contractor, who or which contracts with the Contractor or with its subcontractors to furnish, or actually furnishes labor, or labor and materials, or labor and equipment, or superintendence, supervision and/or management at the Site. Wherever the word Subcontractor appears, it shall also mean sub-Subcontractor.

2.1.34 **"Substantial Completion"** shall mean the written determination by the Engineer that the Work required under this Contract is substantially, but not entirely, complete and the approval of the **Final Approved Punch List**.

2.1.35 **"Work"** shall mean all services required to complete the Project in accordance with the Contract Documents, including without limitation, labor, material, superintendence, management, administration, equipment, and incidentals, and obtaining any and all permits, certifications and licenses as may be necessary and required to complete the Work, and shall include both Contract Work and Extra Work.

CHAPTER II: THE WORK AND ITS PERFORMANCE

ARTICLE 3. CHARACTER OF THE WORK

3.1 Unless otherwise expressly provided in the **Contract Drawings**, **Specifications,** and **Addenda**, the **Work** shall be performed in accordance with the best modern practice, utilizing, unless otherwise specified in writing, new and unused materials of standard first grade quality and workmanship anddesign of the highest quality, to the satisfaction of the **Commissioner**.

ARTICLE 4. MEANS AND METHODS OF CONSTRUCTION

4.1 Unless otherwise expressly provided in the **Contract Drawings**, **Specifications,** and **Addenda**, the **Means and Methods of Construction** shall be such as the **Contractor** may choose; subject, however, to the **Engineer's** right to reject the **Means and Methods of Construction** proposed by the **Contractor** which in the opinion of the **Engineer**:

4.1.1 Will constitute or create a hazard to the **Work**, or to persons or property; or

4.1.2 Will not produce finished **Work** in accordance with the terms of the **Contract**; or

4.1.3 Will be detrimental to the overall progress of the **Project**.

4.2 The **Engineer's** approval of the **Contractor's Means and Methods of Construction**, orhis/her failure to exercise his/her right to reject such means or methods, shall not relieve the **Contractor** of its obligation to complete the **Work** as provided in this **Contract**; nor shall the exercise of such rightto reject

create a cause of action for damages.

ARTICLE 5. COMPLIANCE WITH LAWS

5.1 The **Contractor** shall comply with all **Laws** applicable to this **Contract** and to the **Work** to be done hereunder.

5.2 Procurement Policy Board Rules: This **Contract** is subject to the Rules of the **PPB** ("**PPB** Rules") in effect at the time of the bid opening for this **Contract**. In the event of a conflict between the **PPB** Rules and a provision of this **Contract**, the **PPB** Rules shall take precedence.

5.3 Noise Control Code provisions.

5.3.1 In accordance with the provisions of Section 24-216(b) of the Administrative Code of the **City** ("Administrative Code"), Noise Abatement Contract Compliance, devices and activities which will be operated, conducted, constructed or manufactured pursuant to this **Contract** and which are subject to the provisions of the **City** Noise Control Code shall be operated, conducted, constructed, or manufactured without causing a violation of the Administrative Code. Such devices and activities shall incorporate advances in the art of noise control development for the kind and level of noise emitted or produced by such devices and activities, in accordance with regulations issued by the **Commissioner** of the **City** Department of Environmental Protection.

5.3.2 The **Contractor** agrees to comply with Section 24-219 of the Administrative Code and implementing rules codified at 15 Rules of the City of New York ("RCNY") Section 28-100 *et seq*. In accordance with such provisions, the **Contractor**, if the **Contractor** is the responsible party under such regulations, shall prepare and post a Construction Noise Mitigation Plan at each **Site**, in which the **Contractor** shall certify that all construction tools and equipment have been maintained so that they operate at normal manufacturers operating specifications. If the **Contractor** cannot make this certification, it must have in place an Alternative Noise Mitigation Plan approved by the **City** Department of Environmental Protection. In addition, the **Contractor**'s certified Construction Noise Mitigation Plan is subject inspection by the **City** Department of Environmental Protection in accordance with Section 28-101 of Title 15 of RCNY. No **Contract Work** may take place at a **Site** unless there is a Construction Noise Mitigation Plan or approved Alternative Noise Mitigation Plan in place. In addition, the **Contractor** shall create and implement a noise mitigation training program. Failure to comply with these requirements may result in fines and other penalties pursuant to the applicable provisions of the Administrative Code and RCNY.

5.4 Ultra Low Sulfur Diesel Fuel: In accordance with the provisions of Section 24-163.3 of the Administrative Code, the **Contractor** specifically agrees as follows:

5.4.1 Definitions. For purposes of this Article 5.4, the following definitions apply:

5.4.1(a) "Contractor" means any person or entity that enters into a Public Works Contract with a **City Agency**, or any person or entity that enters into an agreement with such person or entity, to perform work or provide labor or services related to such Public Works Contract.

5.4.1(b) "Motor Vehicle" means any self-propelled vehicle designed for transporting

persons or property on a street or highway.

5.4.1(c) "Nonroad Engine" means an internal combustion engine (including the fuel system) that is not used in a Motor Vehicle or a vehicle used solely for competition,or that is not subject to standards promulgated under Section 7411 or Section 7521 of Title 42 of the United States Code, except that this term shall apply to internal combustion engines used to power generators, compressors or similar equipment used in any construction program or project.

5.4.1(d) "Nonroad Vehicle" means a vehicle that is powered by a Nonroad Engine, fifty (50) horsepower and greater, and that is not a Motor Vehicle or a vehicle used solely for competition, which shall include, but not be limited to, excavators, backhoes, cranes, compressors, generators, bulldozers, and similar equipment, except that this term shall not apply to horticultural maintenance vehicles used for landscaping purposes that are powered by a Nonroad Engine of sixty-five (65) horsepower or less and that are not used in any construction program or project.

5.4.1(e) "Public Works Contract" means a contract with a **City Agency** for a construction program or project involving the construction, demolition, restoration, rehabilitation, repair, renovation, or abatement of any building, structure, tunnel, excavation, roadway, park or bridge; a contract with a **City Agency** for the preparation for any construction program or project involving the construction, demolition, restoration, rehabilitation, repair, renovation, or abatement of any building, structure, tunnel, excavation, roadway, park or bridge; or a contract with a **City Agency** for any final work involved in the completion of any construction program or project involving the construction, demolition, restoration, rehabilitation, repair, renovation, or abatement of any building, structure, tunnel, excavation, roadway, park or bridge.

5.4.1(f) "Ultra Low Sulfur Diesel Fuel" means diesel fuel that has a sulfur content of no more than fifteen parts per million (15 ppm).

5.4.2 Ultra Low Sulfur Diesel Fuel

5.4.2(a) All **Contractors** shall use Ultra Low Sulfur Diesel Fuel in diesel-powered Nonroad Vehicles in the performance of this **Contract**.

5.4.2(b) Notwithstanding the requirements of Article 5.4.2(a), **Contractors** may use diesel fuel that has a sulfur content of no more than thirty parts per million (30 ppm)to fulfill the requirements of this Article 5.4.2, where the Commissioner of the **City** Department of Environmental Protection ("DEP Commissioner") has issued a determination that a sufficient quantity of Ultra Low Sulfur Diesel Fuel is not available to meet the needs of **Agencies** and **Contractors**. Any such determination shall expire after six (6) months unless renewed.

5.4.2(c) **Contractors** shall not be required to comply with this Article 5.4.2 where the **City Agency** letting this **Contract** makes a written finding, which is approved, in writing, by the DEP Commissioner, that a sufficient quantity of Ultra Low Sulfur Diesel Fuel, or diesel fuel that has a sulfur content of no more than thirty parts per million (30 ppm) is not available to meet the requirements of Section 24-163.3 of the Administrative Code, provided that such **Contractor** in its fulfillment of the requirements of this **Contract**, to the extent practicable, shall use whatever quantity of Ultra Low Sulfur Diesel Fuel or diesel fuel that has a sulfur content of no more than thirty parts per

million (30 ppm) is available. Any finding made pursuant to this Article 5.4.2(c) shall expire after sixty (60) **Days**, at which time the requirements of this Article 5.4.2 shall be in full force and effect unless the **City Agency** renews the finding in writing and such renewal is approved by the DEP Commissioner.

5.4.2(d) **Contractors** may check on determinations and approvals issued by the DEP Commissioner pursuant to Section 24-163.3 of the Administrative Code, if any, at www.dep.nyc.gov or by contacting the **City Agency** letting this **Contract**.

5.4.2(e) The requirements of this Article 5.4.2 do not apply where they are precluded by federal or State funding requirements or where the **Contract** is an emergency procurement.

5.4.3 Best Available Technology

5.4.3(a) All **Contractors** shall utilize the best available technology for reducing the emission of pollutants for diesel-powered Nonroad Vehicles in the performance of this **Contract**. For determinations of best available technology for each type of diesel-powered Nonroad Vehicle, **Contractors** shall comply with the regulations of the **City** Department of Environmental Protection, as and when adopted, Chapter 14of Title 15 of the Rules of the City of New York (RCNY). The **Contractor** shall fully document all steps in the best available technology selection process and shall furnish such documentation to the **City Agency** or the DEP Commissioner upon request. The **Contractor** shall retain all documentation generated in the best available technology selection process for as long as the selected best available technology is in use.

5.4.3(b) No **Contractor** shall be required to replace best available technology for reducing the emission of pollutants or other authorized technology utilized for a diesel-powered Nonroad Vehicle in accordance with the provisions of this Article 5.4.3 within three (3) years of having first utilized such technology for such vehicle.

5.4.3(c) This Article 5.4.3 shall not apply to any vehicle used to satisfy the requirements of a specific Public Works Contract for fewer than twenty (20) **Days**.

5.4.3(d) The **Contractor** shall not be required to comply with this Article 5.4.3 with respect to a diesel-powered Nonroad Vehicle under the following circumstances:

5.4.3(d)(i) Where the **City Agency** makes a written finding, which is approved, in writing, by the DEP Commissioner, that the best available technology for reducing the emission of pollutants as required by this Article 5.4.3 is unavailable for such vehicle, the **Contractor** shall use whatever technology for reducing the emission of pollutants, if any, is available and appropriate for such vehicle.

5.4.3(d)(ii) Where the DEP Commissioner has issued a written waiver based upon the Contractor having demonstrated to the DEP Commissioner that the use of the best available technology for reducing the emission of pollutants might endanger the operator of such vehicle or those working near such vehicle, due to engine malfunction, the **Contractor** shall use whatever technology for reducing the emission of pollutants, if any, is available and appropriate for such vehicle, which would not endanger the operator of such vehicle or those working near such vehicle.

5.4.3(d)(iii) In determining which technology to use for the purposes of Articles 5.4.3(d)(i) and 5.4.3(d)(ii) above, the **Contractor** shall primarily consider the reduction in emissions of particulate matter and secondarily consider the reduction in emissions of nitrogen oxides associated with the use of such technology, which shall in no event result in an increase in the emissions of either such pollutant.

5.4.3(d)(iv) The **Contractor** shall submit requests for a finding or a waiver pursuant to this Article 5.4.3(d) in writing to the DEP Commissioner, with a copy to the **ACCO** of the **City Agency** letting this **Contract**. Any finding or waiver made or issued pursuant to Articles 5.4.3(d)(i) and 5.4.3(d)(ii) above shall expire after one hundred eighty (180) **Days**, at which time the requirements of Article 5.4.3(a) shall be in full force and effect unless the **City Agency** renews the finding, in writing, and the DEP Commissioner approves such finding, in writing, or the DEP Commissioner renews the waiver, in writing.

5.4.3(e) The requirements of this Article 5.4.3 do not apply where they are precluded by federal or State funding requirements or where the **Contract** is an emergency procurement.

5.4.4 Section 24-163 of the Administrative Code. The **Contractor** shall comply with Section 24-163 of the Administrative Code related to the idling of the engines of motor vehicles while parking.

5.4.5 Compliance

5.4.5(a) The **Contractor's** compliance with Article 5.4 may be independently monitored. If it is determined that the **Contractor** has failed to comply with any provision of Article 5.4, any costs associated with any independent monitoring incurred by the **City** shall be reimbursed by the **Contractor**.

5.4.5(b) Any **Contractor** who violates any provision of Article 5.4, except as provided in Article 5.4.5(c) below, shall be liable for a civil penalty between the amounts of one thousand ($1,000) and ten thousand ($10,000) dollars, in addition to twice the amount of money saved by such **Contractor** for failure to comply with Article 5.4.

5.4.5(c) No **Contractor** shall make a false claim with respect to the provisions of Article 5.4 to a **City Agency**. Where a **Contractor** has been found to have done so, such **Contractor** shall be liable for a civil penalty of twenty thousand ($20,000) dollars, in addition to twice the amount of money saved by such **Contractor** in association with having made such false claim.

5.4.6 Reporting

5.4.6(a) For all Public Works Contracts covered by this Article 5.4, the **Contractor** shall report to the **City Agency** the following information:

5.4.6(a)(i) The total number of diesel-powered Nonroad Vehicles used to fulfill the requirements of this Public Works Contract;

5.4.6(a)(ii) The number of such Nonroad Vehicles that were powered by Ultra Low Sulfur Diesel Fuel;

5.4.6(a)(iii) The number of such Nonroad Vehicles that utilized the best available technology for reducing the emission of pollutants, including a breakdown by vehicle model and the type of technology;

5.4.6(a)(iv) The number of such Nonroad Vehicles that utilized such other authorized technology in accordance with Article 5.4.3, including a breakdown by vehicle model and the type of technology used for each such vehicle;

5.4.6(a)(v) The locations where such Nonroad Vehicles were used; and

5.4.6(a)(vi) Where a determination is in effect pursuant to Article 5.4.2(b) or 5.4.2(c), detailed information concerning the **Contractor's** efforts to obtain Ultra Low Sulfur Diesel Fuel or diesel fuel that has a sulfur content of no more than thirty parts per million (30 ppm).

5.4.6(b) The **Contractor** shall submit the information required by Article 5.4.6(a) at the completion of **Work** under the Public Works Contract and on a yearly basis no later than August 1 throughout the term of the Public Works Contract. The yearly report shall cover **Work** performed during the preceding fiscal year (July 1 - June 30).

5.5 Ultra Low Sulfur Diesel Fuel. In accordance with the Coordinated Construction Act for Lower Manhattan, as amended:

5.5.1 Definitions. For purposes of this Article 5.5, the following definitions apply:

5.5.1(a) "Lower Manhattan" means the area to the south of and within the following lines: a line beginning at a point where the United States pierhead line in the Hudson River as it exists now or may be extended would intersect with the southerly line of West Houston Street in the Borough of Manhattan extended, thence easterly along the southerly side of West Houston Street to the southerly side of Houston Street, thence easterly along the southerly side of Houston Street to the southerly side of East Houston Street, thence northeasterly along the southerly side of East Houston Street to the point where it would intersect with the United States pierhead line in the East River as it exists now or may be extended, including tax lots within or immediately adjacent thereto.

5.5.1(b) "Lower Manhattan Redevelopment Project" means any project in Lower Manhattan that is funded in whole or in part with federal or State funding, or any project intended to improve transportation between Lower Manhattan and the two air terminals in the **City** known as LaGuardia Airport and John F. Kennedy International Airport, or between Lower Manhattan and the air terminal in Newark known as Newark Liberty International Airport, and that is funded in whole or in part with federal funding.

5.5.1(c) "Nonroad Engine" means an internal combustion engine (including the fuel system) that is not used in a Motor Vehicle or a vehicle used solely for competition, or that is not subject to standards promulgated under Section 7411 or Section 7521 of Title 42 of the United States Code, except that this term shall apply to internal combustion engines used to power generators, compressors or similar equipment used in any construction program or project.

5.5.1(d) "Nonroad Vehicle" means a vehicle that is powered by a Nonroad Engine, fifty (50) horsepower (HP) and greater, and that is not a Motor Vehicle or a vehicle used

solely for competition, which shall include, but not be limited to, excavators, backhoes, cranes, compressors, generators, bulldozers, and similar equipment, except that this terms shall not apply to horticultural maintenance vehicles used for landscaping purposes that are powered by a Nonroad Engine of sixty-five (65) HP or less and that are not used in any construction program or project.

5.5.1(e) "Ultra Low Sulfur Diesel Fuel" means diesel fuel that has a sulfur content of no more than fifteen parts per million (15 ppm).

5.5.2 Requirements. **Contractors** and **Subcontractors** are required to use only Ultra Low Sulfur Diesel Fuel to power the diesel-powered Nonroad Vehicles with engine HP rating of fifty (50) HP and above used on a Lower Manhattan Redevelopment Project and, where practicable, to reduce the emission of pollutants by retrofitting such Nonroad Vehicles with oxidation catalysts, particulate filters, or technology that achieves lowest particulate matter emissions.

5.6 Pesticides. In accordance with Section 17-1209 of the Administrative Code, to the extent that the **Contractor** or any **Subcontractor** applies pesticides to any property owned or leased by the **City**, the **Contractor,** and any **Subcontractor** shall comply with Chapter 12 of the Administrative Code.

5.7 Waste Treatment, Storage, and Disposal Facilities and Transporters. In connection withthe **Work**, the **Contractor** and any **Subcontractor** shall use only those waste treatment, storage, and disposal facilities and waste transporters that possess the requisite license, permit or other governmental approval necessary to treat, store, dispose, or transport the waste, materials or hazardous substances.

5.8 Environmentally Preferable Purchasing. The **Contractor** shall ensure that products purchased or leased by the **Contractor** or any **Subcontractor** for the **Work** that are not specified by the **City** or are submitted as equivalents to a product specified by the **City** comply with the requirements of the New York City Environmentally Preferable Purchasing Program contained in Chapter 11 of Title 43 of the RCNY, pursuant to Chapter 3 of Title 6 of the Administrative Code.

ARTICLE 6. INSPECTION

6.1 During the progress of the **Work** and up to the date of **Final Acceptance**, the **Contractor** shall at all times afford the representatives of the **City** every reasonable, safe, and proper facility for inspecting all **Work** done or being done at the **Site** and also for inspecting the manufacture or preparation of materials and equipment at the place of such manufacture or preparation.

6.2 The **Contractor's** obligation hereunder shall include the uncovering or taking down of finished **Work** and its restoration thereafter; provided, however, that the order to uncover, take down and restore shall be in writing, and further provided that if **Work** thus exposed proves satisfactory, and if the **Contractor** has complied with Article 6.1, such uncovering or taking down and restoration shall be considered an item of **Extra Work** to be paid for in accordance with the provisions of Article 26. If the **Work** thus exposed proves unsatisfactory, the **City** has no obligation to compensate the **Contractor** for the uncovering, taking down or restoration.

6.3 Inspection and approval by the **Commissioner**, the **Engineer**, **Project Manager**, or **Resident Engineer**, of finished **Work** or of **Work** being performed, or of materials and equipment at the place of manufacture or preparation, shall not relieve the **Contractor** of its obligation to perform the **Work** in strict accordance with the **Contract**. Finished or unfinished **Work** not found to be in strict accordance with the

Contract shall be replaced as directed by the **Engineer**, even though such **Work** may have been previously approved and paid for. Such corrective **Work** is **Contract Work** and shall not be deemed **Extra Work**.

6.4 Rejected **Work** and materials shall be promptly taken down and removed from the **Site**, which must at all times be kept in a reasonably clean and neat condition.

ARTICLE 7. PROTECTION OF WORK AND OF PERSONS AND PROPERTY; NOTICESAND INDEMNIFICATION

7.1 During the performance of the **Work** and up to the date of **Final Acceptance**, the **Contractor** shall be under an absolute obligation to protect the finished and unfinished **Work** against any damage, loss, injury, theft and/or vandalism and in the event of such damage, loss, injury, theft and/or vandalism,it shall promptly replace and/or repair such **Work** at the **Contractor's** sole cost and expense, as directed by the **Resident Engineer**. The obligation to deliver finished **Work** in strict accordance with the **Contract** prior to **Final Acceptance** shall be absolute and shall not be affected by the **Resident Engineer's** approval of, or failure to prohibit, the **Means and Methods of Construction** used by the **Contractor**.

7.2 During the performance of the **Work** and up to the date of **Final Acceptance**, the **Contractor** shall take all reasonable precautions to protect all persons and the property of the **City** and of others from damage, loss or injury resulting from the **Contractor's**, and/or its **Subcontractors'** operations under this **Contract.** The **Contractor's** obligation to protect shall include the duty to provide, place or replace, and adequately maintain at or about the **Site** suitable and sufficient protection such as lights, barricades, and enclosures.

7.3 The **Contractor** shall comply with the notification requirements set forth below in the event of any loss, damage or injury to **Work**, persons or property, or any accidents arising out of the operations of the **Contractor** and/or its **Subcontractors** under this **Contract**.

7.3.1 The **Contractor** shall make a full and complete report in writing to the **Resident Engineer** within three (3) **Days** after the occurrence.

7.3.2 The **Contractor** shall also send written notice of any such event to all insurance carriers that issued potentially responsive policies (including commercial general liability insurance carriers for events relating to the **Contractor**'s own employees) no later than twenty (20) days after such event and again no later than twenty (20) days after the initiation of any claim and/or action resulting therefrom. Such notice shall contain the following information: the number of the insurance policy, the name of the Named Insured, the date and location of the incident, and the identity of the persons injured or property damaged. For any policy on which the **City** and/or the **Engineer**, **Architect**, or **Project Manager** are Additional Insureds, such notice shall expressly specify that "this notice is being given on behalf of the City of New York as Additional Insured, such other AdditionalInsureds, as well as the Named Insured."

7.3.2(a) Whenever such notice is sent under a policy on which the **City** is an Additional Insured, the **Contractor** shall provide copies of the notice to the **Comptroller,** the **Commissioner** and the **City** Corporation Counsel. The copy to the **Comptroller** shall be sent to the Insurance Unit, NYC Comptroller's Office, 1 Centre Street – Room 1222, New York, New York, 10007. The copy to the **Commissioner** shall be sent to the address set forth in Schedule A of the General Conditions. The copy to the **City** Corporation Counsel shall be sent to Insurance Claims Specialist, Affirmative Litigation

Division, New York City Law Department, 100 Church Street, New York, New York 10007.

7.3.2(b) If the **Contractor** fails to provide any of the foregoing notices to anyappropriate insurance carrier(s) in a timely and complete manner, the **Contractor**shall indemnify the **City** for all losses, judgments, settlements, and expenses, including reasonable attorneys' fees, arising from an insurer's disclaimer of coverage citing late notice by or on behalf of the **City**.

7.4 To the fullest extent permitted by law, the **Contractor** shall defend, indemnify, and hold the **City**, its employees, and officials (the "Indemnitees") harmless against any and all claims (including but not limited to claims asserted by any employee of the **Contractor** and/or its **Subcontractors**) and costs and expenses of whatever kind (including but not limited to payment or reimbursement of attorneys' fees and disbursements) allegedly arising out of or in any way related to the operations of the **Contractor** and/or its **Subcontractors** in the performance of this **Contract** or from the **Contractor's** and/or its **Subcontractors'** failure to comply with any of the provisions of this **Contract** or of the **Law**. Such costs and expenses shall include all those incurred in defending the underlying claim and those incurred in connection with the enforcement of this Article 7.4 by way of cross-claim, third-party claim, declaratory action or otherwise. The parties expressly agree that the indemnification obligation hereunder contemplates (1) full indemnity in the event of liability imposed against the Indemnitees without negligence and solely by reason of statute, operation of **Law** or otherwise; and (2) partial indemnity in the event of any actual negligence on the part of the Indemnitees either causing orcontributing to the underlying claim (in which case, indemnification will be limited to any liability imposed over and above that percentage attributable to actual fault whether by statute, by operation of **Law**, or otherwise). Where partial indemnity is provided hereunder, all costs and expenses shall be indemnified on a pro rata basis.

7.4.1 Indemnification under Article 7.4 or any other provision of the **Contract** shall operate whether or not **Contractor** or its **Subcontractors** have placed and maintained the insurance specified under Article 22.

7.5 The provisions of this Article 7 shall not be deemed to create any new right of action in favor of third parties against the **Contractor** or the **City**.

CHAPTER III: TIME PROVISIONS

ARTICLE 8. COMMENCEMENT AND PROSECUTION OF THE WORK

8.1 The **Contractor** shall commence the **Work** on the date specified in the **Notice to Proceed** or the **Order to Work**. The time for performance of the **Work** under the **Contract** shall be computed from the date specified in the **Notice to Proceed** or the **Order to Work**. **TIME BEING OF THE ESSENCE** to the **City**, the **Contractor** shall thereafter prosecute the **Work** diligently, using such **Means and Methods of Construction** as are in accord with Article 4 herein and as will assure its completion not later than the date specified in this Contract, or on the date to which the time for completion may be extended.

ARTICLE 9. PROGRESS SCHEDULES

9.1 To enable the **Work** to be performed in an orderly and expeditious manner, the **Contractor**, within fifteen (15) **Days** after the **Notice to Proceed** or **Order to Work**, unless otherwise directed by the **Engineer**, shall submit to the **Engineer** a proposed progress schedule based on the Critical Path Methodin the form of

a bar graph or in such other form as specified by the **Engineer**, and monthly cash flow requirements, showing:

9.1.1 The anticipated time of commencement and completion of each of the variousoperations to be performed under this **Contract**; and

9.1.2 The sequence and interrelation of each of these operations with the others and with those of other related contracts; and

9.1.3 The estimated time required for fabrication or delivery, or both, of all materials and equipment required for the **Work**, including the anticipated time for obtaining required approvals pursuant to Article 10; and

9.1.4 The estimated amount in dollars the **Contractor** will claim on a monthly basis.

9.2 The proposed schedule shall be revised as directed by the **Engineer**, until finally approved by the **Engineer**, and after such approval, subject to the provisions of Article 11, shall be strictly adhered to by the **Contractor**.

9.3 If the **Contractor** shall fail to adhere to the approved progress schedule, or to the schedule as revised pursuant to Article 11, it shall promptly adopt such other or additional **Means and Methods of Construction**, at its sole cost and expense, as will make up for the time lost and will assure completion in accordance with the approved progress schedule. The approval by the **City** of a progress schedule which is shorter than the time allotted under the **Contract** shall not create any liability for the **City** if the approved progress schedule is not met.

9.4 The **Contractor** will not receive any payments until the proposed progress schedule is submitted.

ARTICLE 10. REQUESTS FOR INFORMATION OR APPROVAL

10.1 From time to time as the **Work** progresses and in the sequence indicated by the approved progress schedule, the **Contractor** shall submit to the **Engineer** a specific request in writing for each item of information or approval required by the **Contractor**. These requests shall state the latest date upon which the information or approval is actually required by the **Contractor**, and shall be submitted in a reasonable time in advance thereof to provide the **Engineer** a sufficient time to act upon such submissions, or any necessary re-submissions thereof.

10.2 The **Contractor** shall not have any right to an extension of time on account of delays due to the **Contractor's** failure to submit requests for the required information or the required approval in accordance with the above requirements.

ARTICLE 11. NOTICE OF CONDITIONS CAUSING DELAY AND DOCUMENTATION OF DAMAGES CAUSED BY DELAY

11.1 After the commencement of any condition which is causing or may cause a delay in completion of the **Work**, including conditions for which the **Contractor** may be entitled to an extension of time, the following notifications and submittals are required:

11.1.1 Within fifteen (15) **Days** after the **Contractor** becomes aware or reasonably should be

aware of each such condition, the **Contractor** must notify the **Resident Engineer** or **Engineer**, as directed by the **Commissioner**, in writing of the existence, nature and effect of such condition upon the approved progress schedule and the **Work**, and must state why and in what respects, if any, the condition is causing or may cause a delay. Such notice shall include a description of the construction activities that are or could be affected by the condition and may include any recommendations the **Contractor** may have to address the delay condition and any activities the **Contractor** may take to avoid or minimize the delay.

11.1.2 If the **Contractor** shall claim to be sustaining damages for delay as provided for in this Article 11,within forty-five (45) **Days** from the time such damages are first incurred for each such condition, the **Contractor** shall submit to the **Commissioner** a verified written statement of the details and estimates of the amounts of such damages, including categories of expected damages and projected monthly costs, together with documentary evidence of such damages as the **Contractor** may have at the time of submission ("statement of delay damages"), as further detailed in Article 11.6. The **Contractor** may submit the above statement within such additional time as may be granted by the **Commissioner** in writing upon written request therefor.

11.1.3 Articles 11.1.1 and 11.1.2 do not relieve the **Contractor** of its obligation to comply with the provisions of Article 44.

11.2 Failure of the **Contractor** to strictly comply with the requirements of Article 11.1.1 may, inthe discretion of the **Commissioner**, be deemed sufficient cause to deny any extension of time on account of delay arising out of such condition. Failure of the **Contractor** to strictly comply with the requirements of both Articles 11.1.1 and 11.1.2 shall be deemed a conclusive waiver by the **Contractor** of any and all claims for damages for delay arising from such condition and no right to recover on such claims shall exist.

11.3 When appropriate and directed by the **Engineer**, the progress schedule shall be revised by the **Contractor** until finally approved by the **Engineer**. The revised progress schedule must be strictly adhered to by the **Contractor**.

11.4 Compensable Delays

11.4.1 The **Contractor** agrees to make claim only for additional costs attributable to delayin the performance of this **Contrac**t necessarily extending the time for completion of the **Work** or resulting from acceleration directed by the **Commissioner** and required to maintain the progress schedule, occasioned solely by any act or omission to act of the **City** listed below. The **Contractor** also agrees that delay from any other cause shall be compensated, if at all, solely by an extension of time to complete the performance of the **Work**.

11.4.1.1 The failure of the **City** to take reasonable measures to coordinate and progress the **Work** to the extent required by the **Contract**, except that the City shall not be responsible for the **Contractor's** obligation to coordinate and progress the **Work** of its **Subcontractors**.

11.4.1.2 Unreasonable delays attributable to the review of shop drawings, the issuance of change orders, or the cumulative impact of change orders that were not brought about by any act or omission of the **Contractor**.

11.4.1.3 The unavailability of the **Site** caused by acts or omissions of the **City**..

11.4.1.4 The issuance by the **Engineer** of a stop work order that was not brought about through any act or omission of the **Contractor**.

11.4.1.5 Differing site conditions or environmental hazards that were neitherknown nor reasonably ascertainable on a pre-bid inspection of the **Site**or review

of the bid documents or other publicly available sources, and that are not ordinarily encountered in the **Project**'s geographical area or neighborhood or in the type of **Work** to be performed.

11.4.1.6 Delays caused by the **City's** bad faith or its willful, malicious, or grossly negligent conduct;

11.4.1.7 Delays not contemplated by the parties;

11.4.1.8 Delays so unreasonable that they constitute an intentional abandonment of the **Contract** by the **City**; and

11.4.1.9 Delays resulting from the **City's** breach of a fundamental obligation of the **Contract**.

11.4.2 No claim may be made for any alleged delay in **Substantial Completion** of the **Work** if the **Work** will be or is substantially completed by the date of **Substantial Completion** provided for in Schedule A unless acceleration has been directed by the **Commissioner** to meet the date of **Substantial Completion** set forth in Schedule A, or unless there is a provision in the **Contract** providing for additional compensation for early completion.

11.4.3 The provisions of this Article 11 apply only to claims for additional costs attributable to delay and do not preclude determinations by the **Commissioner** allowing reimbursements for additional costs for **Extra Work** pursuant to Articles 25 and 26 of this **Contract**. To the extent that any cost attributable to delay is reimbursed as part of a change order, no additional claim for compensation under this Article 11 shall be allowed.

11.5 Non-Compensable Delays. The **Contractor** agrees to make no claim for, and is deemed to have included in its bid prices for the various items of the **Contract**, the extra/additional costs attributable to any delays caused by or attributable to the items set forth below. For such items, the **Contractor** shall be compensated, if at all, solely by an extension of time to complete the performance of the **Work**, in accordance with the provisions of Article 13. Such extensions of time will be granted, if at all, pursuant to the grounds set forth in Article 13.3.

11.5.1 The acts or omissions of any third parties, including but not limited to **Other Contractors**, public/ governmental bodies (other than **City Agencies**), utilities or private enterprises, who are disclosed in the **Contract Documents** or are ordinarily encountered or generally recognized as related to the **Work**;

11.5.2 Any situation which was within the contemplation of the parties at the time of entering into the **Contract**, including any delay indicated or disclosed in the **Contract Documents** or that would be generally recognized by a reasonably prudent contractor as related to the nature of the **Work**, and/or the existence of any facility or appurtenance owned, operated or maintained by any third party, as indicated or disclosed in the **Contract Documents** or ordinarily encountered or generally recognized as related to the nature of the **Work**;

11.5.3 Restraining orders, injunctions or judgments issued by a court which were caused by a Contractor's submission, action or inaction or by a Contractor's **Means and Methods of Construction**, or by third parties, unless such order, injunction or judgment was the result of an act or omission by the **City**;

11.5.4 Any labor boycott, strike, picketing, lockout or similar situation;

11.5.5 Any shortages of supplies or materials, or unavailability of equipment, required by the **Contract Work**;

11.5.6 Climatic conditions, storms, floods, droughts, tidal waves, fires, hurricanes, earthquakes, landslides or other catastrophes or acts of God, or acts of war or of the public enemy or terrorist acts, including the **City's** reasonable responses thereto; and

11.5.7 **Extra Work** which does not significantly affect the overall completion of the **Contract**, reasonable delays in the review or issuance of change orders or field orders and/or in shop drawing reviews or approvals.

11.6 Required Content of Submission of Statement of Delay Damages

11.6.1 In the verified written statement of delay damages required by Article 11.1.2, the following information shall be provided by the **Contractor**:

11.6.1.1 For each delay, the start and end dates of the claimed periods of delay and, in addition, a description of the operations that were delayed, an explanation of how they were delayed, and the reasons for the delay, including identifying the applicable act or omission of the City listed in Article 11.4.

11.6.1.2 A detailed factual statement of the claim providing all necessary dates, locations and items of **Work** affected by the claim.

11.6.1.3 The estimated amount of additional compensation sought and a breakdown of that amount into categories as described in Article 11.7.

11.6.1.4 Any additional information requested by the **Commissioner**.

11.7 Recoverable Costs

11.7.1 Delay damages may be recoverable for the following costs actually and necessarily incurred in the performance of the **Work**:

11.7.1.1 Direct labor, including payroll taxes (subject to statutory wage caps) and supplemental benefits, based on time and materials records;

11.7.1.2 Necessary materials (including transportation to the **Site**), based on time and material records;

11.7.1.3 Reasonable rental value of necessary plant and equipment other than small tools, plus fuel/energy costs according to the applicable formula set forth in Articles 26.2.4 and/or 26.2.8, based on time and material records;

11.7.1.4 Additional insurance and bond costs;

11.7.1.5 Extended **Site** overhead, field office rental, salaries of field office staff, on-site project managers and superintendents, field office staff vehicles, **Project-**specific storage, field office utilities and telephone, and field office consumables;

11.7.1.6 Labor escalation costs based on actual costs;

11.7.1.7 Materials and equipment escalation costs based on applicable industry indices unless documentation of actual increased cost is provided;

11.7.1.8 Additional material and equipment storage costs based on actual documented costs and additional costs necessitated by extended manufacturer warranty periods; and

11.7.1.9 Extended home office overhead calculated based on the following formula:

(1) Subtract from the original **Contract** amount the amount earned by original contractual **Substantial Completion** date (not

including change orders);
(2) Remove 15% overhead and profit from the calculation in item (1) by dividing the results of item (1) by 1.15;
(3) Multiply the result of item (2) by 7.25% for the total home office overhead;
(4) Multiply the result of item (3) by 7.25% for the total profit; and
(5) The total extended home office overhead will be the total of items (3) and (4).

11.7.2 Recoverable Subcontractor Costs. When the **Work** is performed by a **Subcontractor**, the **Contractor** may be paid the actual and necessary costs of such subcontracted **Work** as outlined above in Articles 11.7.1.1 through 11.7.1.8, and an additional overhead of 5% of the costs outlined in Articles 11.7.1.1 through 11.7.1.3.

11.7.3 Non-Recoverable Costs. The parties agree that the **City** will have no liability for the following items and the **Contractor** agrees it shall make no claim for the following items:

11.7.3.1 Profit, or loss of anticipated or unanticipated profit, except as provided in Article 11.7.1.9;
11.7.3.2 Consequential damages, including, but not limited to, construction or bridge loans or interest paid on such loans, loss of bonding capacity, bidding opportunities, or interest in investment, or any resulting insolvency;
11.7.3.3 Indirect costs or expenses of any nature except those included in Article 11.7.1;
11.7.3.4 Direct or indirect costs attributable to performance of **Work** where the **Contractor**, because of situations or conditions within its control, hasnot progressed the **Work** in a satisfactory manner; and
11.7.3.5 Attorneys' fees and dispute and claims preparation expenses.

11.8 Any claims for delay under this Article 11 are not subject to the jurisdiction of the Contract Dispute Resolution Board pursuant to the dispute resolution process set forth in Article 27.

11.9 Any compensation provided to the **Contractor** in accordance with this Article 11 will be made pursuant to a claim filed with the **Comptroller**. Nothing in this Article 11 extendsthe time for the **Contractor** to file an action with respect to a claim within six months after **Substantial Completion** pursuant to Article 56.

ARTICLE 12. COORDINATION WITH OTHER CONTRACTORS

12.1 During the progress of the **Work**, **Other Contractors** may be engaged in performing other work or may be awarded other contracts for additional work on this **Project**. In that event, the **Contractor** shall coordinate the **Work** to be done hereunder with the work of such **Other Contractors** and the **Contractor** shall fully cooperate with such **Other Contractors** and carefully fit its own **Work** to that provided under other contracts as may be directed by the **Engineer**. The **Contractor** shall not commit or permit any act which will interfere with the performance of work by any **Other Contractors**.

12.2 If the **Engineer** determines that the **Contractor** is failing to coordinate its **Work** with the work of **Other Contractors** as the **Engineer** has directed, then the **Commissioner** shall have the right to withhold any payments otherwise due hereunder until the **Contractor** completely complies with the **Engineer's** directions.

12.3 The **Contractor** shall notify the **Engineer** in writing if any **Other Contractor** on this **Project** is failing to coordinate its work with the **Work** of this **Contract**. If the **Engineer** finds such charges to be true, the **Engineer** shall promptly issue such directions to the **Other Contractor** with respect thereto as the situation may require. The **City** shall not, however, be liable for any damages suffered by any **Other Contractor's** failure to coordinate its work with the **Work** of this **Contract** or by reason of the **Other Contractor's** failure to promptly comply with the directions so issued by the **Engineer**, or by reason of any **Other Contractor's** default in performance, it being understood that the **City** does not guarantee the responsibility or continued efficiency of any contractor. The **Contractor** agrees to make no claim against the **City** for any damages relating to or arising out of any directions issued by the **Engineer** pursuant to this Article 12 (including but not limited to the failure of any **Other Contractor** to comply or promptly comply with such directions), or the failure of any **Other Contractor** to coordinate its work, or the default in performance of any **Other Contractor**.

12.4 The **Contractor** shall indemnify and hold the **City** harmless from any and all claims or judgments for damages and from costs and expenses to which the **City** may be subjected or which it may suffer or incur by reason of the **Contractor's** failure to comply with the **Engineer's** directions promptly; and the **Comptroller** shall have the right to exercise the powers reserved in Article 23 with respect to any claims which may be made for damages due to the **Contractor's** failure to comply with the **Engineer's** directions promptly. Insofar as the facts and **Law** relating to any claim would preclude the **City** from being completely indemnified by the **Contractor**, the **City** shall be partially indemnified by the **Contractor** to the fullest extent provided by **Law**.

12.5 Should the **Contractor** sustain any damage through any act or omission of any **Other Contractor** having a contract with the **City** for the performance of work upon the **Site** or of work which may be necessary to be performed for the proper prosecution of the **Work** to be performed hereunder, or through any act or omission of a subcontractor of such **Other Contractor**, the **Contractor** shall have no claim against the **City** for such damage, but shall have a right to recover such damage from the **Other**

12.5 **Contractor** under the provision similar to the following provisions which apply to this Contract and have been or will be inserted in the contracts with such Other Contractors:

> 12.5.1 Should any **Other Contractor** having or who shall hereafter have a contract with the **City** for the performance of work upon the **Site** sustain any damage through any act or omission of the **Contractor** hereunder or through any act or omission of any **Subcontractor** of the **Contractor**, the **Contractor** agrees to reimburse such **Other Contractor** for all such damages and to defend at its own expense any action based upon such claim and if any judgment or claim (even if the allegations of the action are without merit) against the **City** shall be allowed the **Contractor** shall pay or satisfy such judgment or claim and pay all costs and expenses in connection therewith and agrees to indemnify and hold the **City** harmless from all such claims. Insofar as the facts and **Law** relating to any claim would preclude the **City** from being completely indemnified by the **Contractor**, the **City** shall be partially indemnified by the **Contractor** to the fullest extent provided by **Law**.

12.6 The **City's** right to indemnification hereunder shall in no way be diminished, waived or discharged by its recourse to assessment of liquidated damages as provided in Article 15, or by the exercise of any other remedy provided for by **Contract** or by **Law**.

ARTICLE 13. EXTENSION OF TIME FOR PERFORMANCE

13.1 If performance by the **Contractor** is delayed for a reason set forth in Article 13.3, the **Contractor** may be allowed a reasonable extension of time in conformance with this Article 13 and the **PPB**

Rules.

13.2 Any extension of time may be granted only by the **ACCO** or by the Board for the Extension of Time (hereafter "Board") (as set forth below) upon written application by the **Contractor**.

13.3 Grounds for Extension: If such application is made, the **Contractor** shall be entitled to an extension of time for delay in completion of the **Work** caused solely:

13.3.1 By the acts or omissions of the **City**, its officials, agents or employees; or

13.3.2 By the act or omissions of **Other Contractors** on this **Project**; or

13.3.3 By supervening conditions entirely beyond the control of either party hereto (such as, but not limited to, acts of God or the public enemy, excessive inclement weather, war or other national emergency making performance temporarily impossible or illegal, or strikes or labor disputes not brought about by any act or omission of the **Contractor**).

13.3.4 The **Contractor** shall, however, be entitled to an extension of time for such causes only for the number of **Days** of delay which the **ACCO** or the Board may determine to be due solely to such causes, and then only if the **Contractor** shall have strictly complied with all of the requirements of Articles 9 and 10.

13.4 The **Contractor** shall not be entitled to receive a separate extension of time for each of several causes of delay operating concurrently, but, if at all, only for the actual period of delay in completion of the **Work** as determined by the **ACCO** or the Board, irrespective of the number of causes contributing to produce such delay. If one of several causes of delay operating concurrently results from any act, fault or omission of the **Contractor** or of its **Subcontractors** or **Materialmen**, and would of itself (irrespective of the concurrent causes) have delayed the **Work**, no extension of time will be allowed for the period ofdelay resulting from such act, fault or omission.

13.5 The determination made by the **ACCO** or the Board on an application for an extension of time shall be binding and conclusive on the **Contractor**.

13.6 The **ACCO** or the Board acting entirely within their discretion may grant an application for an extension of time for causes of delay other than those herein referred.

13.7 Permitting the **Contractor** to continue with the **Work** after the time fixed for its completion has expired, or after the time to which such completion may have been extended has expired, or the making of any payment to the **Contractor** after such time, shall in no way operate as a waiver on the part of the **City** of any of its rights under this **Contract**.

13.8 Application for Extension of Time:

13.8.1 Before the **Contractor's** time extension request will be considered, the **Contractor** shall notify the **ACCO** of the condition which allegedly has caused or is causing the delay, and shall submit a written application to the **ACCO** identifying:

13.8.1(a) The **Contractor**; the registration number; and **Project** description;

13.8.1(b) Liquidated damage assessment rate, as specified in the **Contract**;

13.8.1(c) Original total bid price;

13.8.1(d) The original **Contract** start date and completion date;

13.8.1(e) Any previous time extensions granted (number and duration); and

13.8.1(f) The extension of time requested.

13.8.2 In addition, the application for extension of time shall set forth in detail:

13.8.2(a) The nature of each alleged cause of delay in completing the **Work**;

13.8.2(b) The date upon which each such cause of delay began and ended and the number of **Days** attributable to each such cause;

13.8.2(c) A statement that the **Contractor** waives all claims except for those delineated in the application, and the particulars of any claims which the **Contractor** does not agree to waive. For time extensions for **Substantial Completion** and final completion payments, the application shall include a detailed statement of the dollar amounts of each element of claim item reserved; and

13.8.2(d) A statement indicating the **Contractor's** understanding that the time extension is granted only for purposes of permitting continuation of **Contract** performance and payment for **Work** performed and that the **City** retains its right to conduct an investigation and assess liquidated damages as appropriate in the future.

13.9 Analysis and Approval of Time Extensions:

13.9.1 For time extensions for partial payments, a written determination shall be made by the **ACCO** who may, for good and sufficient cause, extend the time for the performance of the **Contract** as follows:

13.9.1(a) If the **Work** is to be completed within six (6) months, the time for performance may be extended for sixty (60) **Days**;

13.9.1(b) If the **Work** is to be completed within less than one (1) year but more than six (6) months, an extension of ninety (90) **Days** may be granted;

13.9.1(c) If the **Contract** period exceeds one (1) year, besides the extension granted in Article 13.9.1(b), an additional thirty (30) **Days** may be granted for each multipleof six (6) months involved beyond the one (1) year period; or

13.9.1(d) If exceptional circumstances exist, the **ACCO** may extend the time for performance beyond the extensions in Articles 13.9.1(a), 13.9.1(b), and 13.9.1(c). In that event, the **ACCO** shall file with the Mayor's Office of Contract Services a written explanation of the exceptional circumstances.

13.9.2 For extensions of time for **Substantial Completion** and final completion payments, the **Engineer**, in consultation with the **ACCO**, shall prepare a written analysis of the delay (including a preliminary determination of the causes of delay, the beginning and end dates for each such cause of delay, and whether the delays are excusable under the terms of this **Contract**). The report shall be subject to review by and approval of the Board, which shall have authority to question its analysis and determinations and request additional facts or documentation. The report as reviewed and made final by the Board shall be made a part of the **Agency** contract file. Neither the report itself nor anything contained therein shall operate as a

waiver or release of any claim the **City** may have against the **Contractor** for either actual or liquidated damages.

13.9.3 Approval Mechanism for Time Extensions for **Substantial Completion** or Final Completion Payments: An extension shall be granted only with the approval of the Board which is comprised of the **ACCO** of the **Agency**, the **City** Corporation Counsel, and the **Comptroller**, or their authorized representatives.

13.9.4 Neither the granting of any application for an extension of time to the **Contractor** or any **Other Contractor** on this **Project** nor the papers, records or reports related to any application for or grant of an extension of time or determination related thereto shall be referred to or offered in evidence by the **Contractor** or its attorneys in any action or proceeding.

13.10 No Damage for Delay: The **Contractor** agrees to make no claim for damages for delay in the performance of this **Contract** occasioned by any act or omission to act of the **City** or any of its representatives, except as provided for in Article 11.

ARTICLE 14. COMPLETION AND FINAL ACCEPTANCE OF THE WORK

14.1 Date for **Substantial Completion**: The **Contractor** shall substantially complete the **Work** within the time fixed in Schedule A of the General Conditions, or within the time to which such **Substantial Completion** may be extended.

14.2 Determining the Date of **Substantial Completion**: The **Work** will be deemed to be substantially complete when the two conditions set forth below have been met.

14.2.1 Inspection: The **Engineer** or **Resident Engineer**, as applicable, has inspected the **Work** and has made a written determination that it is substantially complete.

14.2.2 Approval of **Final Approved Punch List** and Date for **Final Acceptance**: Following inspection of the **Work**, the **Engineer/Resident Engineer** shall furnish the **Contractor** with a final punch list, specifying all items of **Work** to be completed and proposing dates for the completion of each specified item of **Work**. The **Contractor** shall then submit in writing to the **Engineer/Resident Engineer** within ten (10) **Days** of the **Engineer/Resident Engineer** furnishing the final punch list either acceptance of the dates or proposed alternative dates for the completion of each specified item of **Work**. If the **Contractor** neither accepts the dates nor proposes alternative dates within ten (10) **Days**, the schedule proposed by the **Engineer/Resident Engineer** shall be deemed accepted. If the **Contractor** proposes alternative dates, then, within a reasonable time after receipt, the **Engineer/Resident Engineer**, in a written notification to the **Contractor**, shall approve the **Contractor's** completion dates or, if they are unable to agree, the **Engineer/Resident Engineer** shall establish dates for the completion of each item of **Work**. The latest completion date specified shall be the date for **Final Acceptance** of the **Work**.

14.3 Date of **Substantial Completion**. The date of approval of the **Final Approved Punch List**, shall be the date of **Substantial Completion**. The date of approval of the **Final Approved Punch List** shall be either (a) if the **Contractor** approves the final punch list and proposed dates for completion furnished by the **Engineer/Resident Engineer**, the date of the **Contractor**'s approval; or (b) if the **Contractor** neither accepts the dates nor proposes alternative dates, ten (10) **Days** after the **Engineer/Resident Engineer** furnishes the **Contractor** with a final punch list and proposed dates for completion; or (c) if the **Contractor** proposes alternative dates, the date that the **Engineer/Resident Engineer** sends written notification to the

Contractor either approving the **Contractor**'s proposed alternative dates or establishing dates for the completion for each item of **Work**.

14.4 Determining the Date of **Final Acceptance**: The **Work** will be accepted as final and complete as of the date of the **Engineer**'s/**Resident Engineer**'s inspection if, upon such inspection, the **Engineer/Resident Engineer** finds that all items on the **Final Approved Punch List** are complete andno further **Work** remains to be done. The **Commissioner** will then issue a written determination of **Final Acceptance**.

14.5 Request for Inspection: Inspection of the **Work** by the **Engineer/Resident Engineer** for the purpose of **Substantial Completion** or **Final Acceptance** shall be made within fourteen (14) **Days** after receipt of the **Contractor's** written request therefor.

14.6 Request for Re-inspection: If upon inspection for the purpose of **Substantial Completion** or **Final Acceptance**, the **Engineer/Resident Engineer** determines that there are items of **Work** still to be performed, the **Contractor** shall promptly perform them and then request a re-inspection. If upon re-inspection, the **Engineer/Resident Engineer** determines that the **Work** is substantially complete or finally accepted, the date of such re-inspection shall be the date of **Substantial Completion** or **Final Acceptance**. Re-inspection by the **Engineer/Resident Engineer** shall be made within ten (10) **Days** after receipt of the **Contractor's** written request therefor.

14.7 Initiation of Inspection by the **Engineer/Resident Engineer**: If the **Contractor** does not request inspection or re-inspection of the **Work** for the purpose of **Substantial Completion** or **Final Acceptance**, the **Engineer/Resident Engineer** may initiate such inspection or re-inspection.

ARTICLE 15. LIQUIDATED DAMAGES

15.1 In the event the **Contractor** fails to substantially complete the **Work** within the time fixed for such **Substantial Completion** in Schedule A of the General Conditions, plus authorized time extensions, or if the **Contractor**, in the sole determination of the **Commissioner**, has abandoned the **Work**, the **Contractor** shall pay to the **City** the sum fixed in Schedule A of the General Conditions, for each and every **Day** that the time consumed in substantially completing the **Work** exceeds the time allowed therefor; which said sum, in view of the difficulty of accurately ascertaining the loss which the **City** will suffer by reason of delay in the **Substantial Completion** of the **Work** hereunder, is hereby fixed and agreed as the liquidated damages that the **City** will suffer by reason of such delay, and not as a penalty. This Article 15 shall also apply to the **Contractor** whether or not the **Contractor** is defaulted pursuant to Chapter X of this **Contract**. Neither the failure to assess liquidated damages nor the granting of any time extension shall operate as a waiver or release of any claim the **City** may have against the **Contractor** for either actual or liquidated damages.

15.2 Liquidated damages received hereunder are not intended to be nor shall they be treated as either a partial or full waiver or discharge of the **City's** right to indemnification, or the **Contractor's** obligation to indemnify the **City**, or to any other remedy provided for in this **Contract** or by **Law**.

15.3 The **Commissioner** may deduct and retain out of the monies which may become due hereunder, the amount of any such liquidated damages; and in case the amount which may become due hereunder shall be less than the amount of liquidated damages suffered by the **City**, the **Contractor** shall be liable to pay the difference.

ARTICLE 16. OCCUPATION OR USE PRIOR TO COMPLETION

16.1 Unless otherwise provided for in the **Specifications**, the **Commissioner** may take over, use, occupy or operate any part of the **Work** at any time prior to **Final Acceptance**, upon written notification to the **Contractor**. The **Engineer** or **Resident Engineer**, as applicable, shall inspect the part of the**Work** to be taken over, used, occupied, or operated, and will furnish the **Contractor** with a written statement of the **Work**, if any, which remains to be performed on such part. The **Contractor** shall not object to, nor interfere with, the **Commissioner's** decision to exercise the rights granted by Article 16. In the event the **Commissioner** takes over, uses, occupies, or operates any part of the **Work:**

16.1.1 the **Engineer/Resident Engineer** shall issue a written determination of **Substantial Completion** with respect to such part of the **Work**;

16.1.2 the **Contractor** shall be relieved of its absolute obligation to protect such part of the unfinished **Work** in accordance with Article 7;

16.1.3 the **Contractor's** guarantee on such part of the **Work** shall begin on the date of such use by the **City**; and;

16.1.4 the **Contractor** shall be entitled to a return of so much of the amount retained in accordance with Article 21 as it relates to such part of the **Work**, except so much thereof as may be retained under Articles 24 and 44.

CHAPTER IV: SUBCONTRACTS AND ASSIGNMENTS

ARTICLE 17. SUBCONTRACTS

17.1 The **Contractor** shall not make subcontracts totaling an amount more than the percentage of the total **Contract** price fixed in Schedule A of the General Conditions, without prior written permission from the **Commissioner**. All subcontracts made by the **Contractor** shall be in writing. No **Work** may be performed by a **Subcontractor** prior to the **Contractor** entering into a written subcontract with the **Subcontractor** and complying with the provisions of this Article 17.

17.2 Before making any subcontracts, the **Contractor** shall submit a written statement to the **Commissioner** giving the name and address of the proposed **Subcontractor**; the portion of the **Work** and materials which it is to perform and furnish; the cost of the subcontract; the VENDEX questionnaire if required; the proposed subcontract if requested by the **Commissioner**; and any other information tending to prove that the proposed **Subcontractor** has the necessary facilities, skill, integrity, past experience, and financial resources to perform the **Work** in accordance with the terms and conditions of this **Contract**.

17.3 In addition to the requirements in Article 17.2, **Contractor** is required to list the **Subcontractor** in the web based Subcontractor Reporting System through the City's Payee Information Portal (PIP), available at www.nyc.gov/pip.[1]For each **Subcontractor** listed, **Contractor** is required to provide the following information: maximum contract value, description of **Subcontractor's** Work, start and end date of the subcontract and identification of the **Subcontractor**'s industry. Thereafter, **Contractor** will be required to report in the system the payments made to each **Subcontractor** within 30 days of making the

[1] In order to use the new system, a PIP account will be required. Detailed instructions on creating a PIP account and using the new system are also available at www.nyc.gov/pip. Additional assistance with PIP may be obtained by emailing the Financial Information Services Agency Help Desk at pip@fisa.nyc.gov.

payment. If any of the required information changes throughout the Term of the **Contract**, **Contractor** will be required to revise the information in the system.

Failure of the **Contractor** to list a **Subcontractor** and/or to report **Subcontractor** payments in a timely fashion may result in the **Commissioner** declaring the **Contractor** in default of the **Contract** and will subject **Contractor** to liquidated damages in the amount of $100 per day for each day that the **Contractor** fails to identify a **Subcontractor** along with the required information about the **Subcontractor** and/or fails to report payments to a **Subcontractor**, beyond the time frames set forth herein or in the notice from the **City**. Article 15 shall govern the issue of liquidated damages.

17.4 If an approved **Subcontractor** elects to subcontract any portion of its subcontract, the proposed sub-subcontract shall be submitted in the same manner as directed above.

17.5 The **Commissioner** will notify the **Contractor** in writing whether the proposed **Subcontractor** is approved. If the proposed **Subcontractor** is not approved, the **Contractor** may submit another proposed **Subcontractor** unless the **Contractor** decides to do the **Work**. No **Subcontractor** shall be permitted to enter or perform any work on the **Site** unless approved.

17.6 Before entering into any subcontract hereunder, the **Contractor** shall provide the proposed **Subcontractor** with a complete copy of this document and inform the proposed **Subcontractor** fully and completely of all provisions and requirements of this **Contract** relating either directly or indirectly to the **Work** to be performed and the materials to be furnished under such subcontract, and every such **Subcontractor** shall expressly stipulate that all labor performed and materials furnished by the **Subcontractor** shall strictly comply with the requirements of this **Contract.**

17.7 Documents given to a prospective **Subcontractor** for the purpose of soliciting the **Subcontractor's** bid shall include either a copy of the bid cover or a separate information sheet setting forth the **Project** name, the **Contract** number (if available), the **Agency** (as noted in Article 2.1.6), and the **Project's** location.

17.8 The **Commissioner's** approval of a **Subcontractor** shall not relieve the **Contractor** of any of its responsibilities, duties, and liabilities hereunder. The **Contractor** shall be solely responsible to the **City** for the acts or defaults of its **Subcontractor** and of such **Subcontractor's** officers, agents, and employees, each of whom shall, for this purpose, be deemed to be the agent or employee of the **Contractor** to the extent of its subcontract.

17.9 If the **Subcontractor** fails to maintain the necessary facilities, skill, integrity, past experience, and financial resources (other than due to the **Contractor's** failure to make payments where required) to perform the **Work** in accordance with the terms and conditions of this **Contract**, the **Contractor** shall promptly notify the **Commissioner** and replace such **Subcontractor** with a newly approved **Subcontractor** in accordance with this Article 17.

17.10 The **Contractor** shall be responsible for ensuring that all **Subcontractors** performing **Work** at the **Site** maintain all insurance required by **Law**.

17.11 The **Contractor** shall promptly, upon request, file with the **Engineer** a conformed copy of the subcontract and its cost. The subcontract shall provide the following:

17.11.1 Payment to **Subcontractors**: The agreement between the **Contractor** and its **Subcontractor** shall contain the same terms and conditions as to method of payment for **Work**, labor, and materials, and as to retained percentages, as are contained in this **Contract**.

17.11.2 Prevailing Rate of Wages: The agreement between the **Contractor** and its **Subcontractor** shall include the prevailing wage rates and supplemental benefits to be paid in accordance with Labor Law Section 220.

17.11.3 Section 6-123 of the Administrative Code: Pursuant to the requirements of Section 6-123 of the Administrative Code, every agreement between the **Contractor** and a **Subcontractor** in excess of fifty thousand ($50,000) dollars shall include a provision that the **Subcontractor** shall not engage in any unlawful discriminatory practice as defined in Title VIII of the Administrative Code (Section 8-101 *et seq*.).

17.11.4 All requirements required pursuant to federal and/or state grant agreement(s), if applicable to the **Work**.

17.12 The **Commissioner** may deduct from the amounts certified under this **Contract** to be due to the **Contractor**, the sum or sums due and owing from the **Contractor** to the **Subcontractors** according to the terms of the said subcontracts, and in case of dispute between the **Contractor** and its **Subcontractor**, or **Subcontractors**, as to the amount due and owing, the **Commissioner** may deduct and withhold from the amounts certified under this **Contract** to be due to the **Contractor** such sum or sums as may be claimed by such **Subcontractor**, or **Subcontractors**, in a sworn affidavit, to be due and owing until such time as such claim or claims shall have been finally resolved.

17.13 On contracts where performance bonds and payment bonds are executed, the **Contractor** shall include on each requisition for payment the following data: **Subcontractor's** name, value of the subcontract, total amount previously paid to **Subcontractor** for **Work** previously requisitioned, and the amount, including retainage, to be paid to the **Subcontractor** for **Work** included in the requisition.

17.14 On **Contracts** where performance bonds and payment bonds are not executed, the **Contractor** shall include with each requisition for payment submitted hereunder, a signed statement from each and every **Subcontractor** and/or **Materialman** for whom payment is requested in such requisition. Such signed statement shall be on the letterhead of the **Subcontractor** and/or **Materialman** for whom payment is requested and shall (i) verify that such **Subcontractor** and/or **Materialman** has been paid in full for all **Work** performed and/or material supplied to date, exclusive of any amount retained and any amount included on the current requisition, and (ii) state the total amount of retainage to date, exclusive of any amount retained on the current requisition.

ARTICLE 18. ASSIGNMENTS

18.1 The **Contractor** shall not assign, transfer, convey or otherwise dispose of this **Contract**, or the right to execute it, or the right, title or interest in or to it or any part thereof, or assign, by power of attorney or otherwise any of the monies due or to become due under this **Contract**, unless the previous written consent of the **Commissioner** shall first be obtained thereto, and the giving of any such consent to a particular assignment shall not dispense with the necessity of such consent to any further or other assignments.

18.2 Such assignment, transfer, conveyance or other disposition of this **Contract** shall not be valid until filed in the office of the **Commissioner** and the **Comptroller**, with the written consent of the **Commissioner** endorsed thereon or attached thereto.

18.3 Failure to obtain the previous written consent of the **Commissioner** to such an assignment,

transfer, conveyance or other disposition, may result in the revocation and annulment of this **Contract**. The **City** shall thereupon be relieved and discharged from any further liability to the **Contractor**, its assignees, transferees or sublessees, who shall forfeit and lose all monies therefor earned under the **Contract**, except so much as may be required to pay the **Contractor's** employees.

18.4 The provisions of this clause shall not hinder, prevent, or affect an assignment by the **Contractor** for the benefit of its creditors made pursuant to the **Laws** of the State of New York.

18.5 This **Contract** may be assigned by the **City** to any corporation, agency or instrumentality having authority to accept such assignment.

CHAPTER V: CONTRACTOR'S SECURITY AND GUARANTEE

ARTICLE 19. SECURITY DEPOSIT

19.1 If performance and payment bonds are required, the **City** shall retain the bid security to ensure that the successful bidder executes the **Contract** and furnishes the required payment and performance security within ten (10) **Days** after notice of the award of the **Contract**. If the successful bidder fails to execute the **Contract** and furnish the required payment and performance security, the **City** shall retain such bid security as set forth in the Information for Bidders. If the successful bidder executes the **Contract** and furnishes the required payment and performance security, the **City** shall return the bid security within a reasonable time after the furnishing of such bonds and execution of the **Contract** by the **City**.

19.2 If performance and payment bonds are not required, the bid security shall be retained by the **City** as security for the **Contractor**'s faithful performance of the **Contract**. If partial payments are provided, the bid security will be returned to the **Contractor** after the sum retained under Article 21 equals the amount of the bid security, subject to other provisions of this **Contract**. If partial payments are not provided, the bid security will be released when final payment is certified by the **City** for payment.

19.3 If the **Contractor** is declared in default under Article 48 prior to the return of the deposit, or if any claim is made such as referred to in Article 23, the amount of such deposit, or so much thereof as the **Comptroller** may deem necessary, may be retained and then applied by the **Comptroller**:

19.3.1 To compensate the **City** for any expense, loss or damage suffered or incurred by reason of or resulting from such default, including the cost of re-letting and liquidated damages; or

19.3.2 To indemnify the **City** against any and all claims.

ARTICLE 20. PAYMENT GUARANTEE

20.1 On **Contracts** where one hundred (100%) percent performance bonds and payment bonds are executed, this Article 20 does not apply.

20.2 In the event the terms of this **Contract** do not require the **Contractor** to provide a payment bond or where the **Contract** does not require a payment bond for one hundred (100%) percent of the **Contract** price, the **City** shall, in accordance with the terms of this Article 20, guarantee payment of all lawful claims for:

20.2.1 Wages and compensation for labor performed and/or services rendered; and

20.2.2 Materials, equipment, and supplies provided, whether incorporated into the **Work** or not, when demands have been filed with the **City** as provided hereinafter by any person, firm, or corporation which furnished labor, material, equipment, supplies, or any combination thereof, in connection with the **Work** performed hereunder (hereinafter referred to as the "beneficiary") at the direction of the **City** or the **Contractor**.

20.3 The provisions of Article 20.2 are subject to the following limitations and conditions:

20.3.1 If the **Contractor** provides a payment bond for a value that is less than one hundred (100%) percent of the value of the **Contract Work**, the payment bond provided by the **Contractor** shall be primary (and non-contributing) to the payment guarantee provided under this Article 20.

20.3.2 The guarantee is made for the benefit of all beneficiaries as defined in Article 20.2 provided that those beneficiaries strictly adhere to the terms and conditions of Article 20.3.4 and 20.3.5.

20.3.3 Nothing in this Article 20 shall prevent a beneficiary providing labor, services or material for the **Work** from suing the **Contractor** for any amounts due and owing the beneficiary by the **Contractor**.

20.3.4 Every person who has furnished labor or material, to the **Contractor** or to a **Subcontractor** of the **Contractor**, in the prosecution of the **Work** and who has not been paid in full therefor before the expiration of a period of ninety (90) **Days** after the date on which the last of the labor was performed or material was furnished by him/her for which the claim is made, shall have the right to sue on this payment guarantee in his/her own name for the amount, or the balance thereof, unpaid at the time of commencement of the action; provided, however, that a person having a direct contractual relationship with a **Subcontractor** of the **Contractor** but no contractual relationship express or implied with the **Contractor** shall not have a right of action upon the guarantee unless he/she shall have given written notice to the **Contractor** within one hundred twenty (120) **Days** from the date on which the last of the labor was performed or the last of the material was furnished, for which his/her claim is made, stating with substantial accuracy the amount claimed and the name of the party to whom the material was furnished or for whom the labor was performed. The notice shall be served by delivering the same personally to the **Contractor** or by mailing the same by registered mail, postage prepaid, in an envelope addressed to the **Contractor** at any place where it maintains an office or conducts its business; provided, however, that where such notice is actually received by the **Contractor** by other means,such notice shall be deemed sufficient.

20.3.5 Except as provided in Labor Law Section 220-g, no action on this payment guarantee shall be commenced after the expiration of the one-year limitations period set forth in Section 137(4)(b) of the State Finance Law.

20.3.6 The **Contractor** shall promptly forward to the **City** any notice or demand received pursuant to Article 20.3.4. The **Contractor** shall inform the **City** of any defenses to the notice or demand and shall forward to the **City** any documents the **City** requests concerning the notice or demand.

20.3.7 All demands made against the **City** by a beneficiary of this payment guarantee shall be presented to the **Engineer** along with all written documentation concerning the demand which the **Engineer** deems reasonably appropriate or necessary, which may include, but shall not be

limited to: the subcontract; any invoices presented to the **Contractor** for payment; the notarized statement of the beneficiary that the demand is due and payable, that a request for payment has been made of the **Contractor** and that the demand has not been paid by the **Contractor** within the time allowed for such payment by the subcontract; and copies of any correspondence between the beneficiary and the **Contractor** concerning such demand. The **City** shall notify the **Contractor** that a demand has been made. The **Contractor** shall inform the **City** of any defenses to the demand and shall forward to the **City** any documents the **City** requests concerning the demand.

20.3.8 The **City** shall make payment only if, after considering all defenses presented by the **Contractor**, it determines that the payment is due and owing to the beneficiary making the demand.

20.3.9 No beneficiary shall be entitled to interest from the **City**, or to any other costs, including, but not limited to, attorneys' fees, except to the extent required by State Finance Law Section 137.

20.3.10

20.4 Upon the receipt by the **City** of a demand pursuant to this Article 20, the **City** may withhold from any payment otherwise due and owing to the **Contractor** under this **Contract** an amount sufficient to satisfy the demand.

20.4.1 In the event the **City** determines that the demand is valid, the **City** shall notify the **Contractor** of such determination and the amount thereof and direct the **Contractor** to immediately pay such amount to the beneficiary. In the event the **Contractor**, within seven (7) **Days** of receipt of such notification from the **City**, fails to pay the beneficiary, such failure shall constitute an automatic and irrevocable assignment of payment by the **Contractor** to the beneficiary for the amount of the demand determined by the **City** to be valid. The **Contractor**, without further notification or other process, hereby gives its unconditional consent to such assignment of payment to the beneficiary and authorizes the **City**, on its behalf, to take all necessary actions to implement such assignment of payment, including without limitation the execution of any instrument or documentation necessary to effectuate such assignment.

20.4.2 In the event that the amount otherwise due and owing to the **Contractor** by the **City** is insufficient to satisfy such demand, the **City** may, at its option, require payment from the **Contractor** of an amount sufficient to cover such demand and exercise any other right to require or recover payment which the **City** may have under **Law** or **Contract**.

20.4.3 In the event the **City** determines that the demand is invalid, any amount withheld pending the **City**'s review of such demand shall be paid to the **Contractor**; provided, however, no lien has been filed. In the event a claim or an action has been filed, the terms and conditions set forth in Article 23 shall apply. In the event a lien has been filed, the parties will be governed by the provisions of the Lien Law of the State of New York.

20.5 The provisions of this Article 20 shall not prevent the **City** and the **Contractor** from resolving disputes in accordance with the **PPB** Rules, where applicable.

20.6 In the event the **City** determines that the beneficiary is entitled to payment pursuant to this Article 20, such determination and any defenses and counterclaims raised by the **Contractor** shall be taken into account in evaluating the **Contractor's** performance.

20.7 Nothing in this Article 20 shall relieve the **Contractor** of the obligation to pay the claims of all

persons with valid and lawful claims against the **Contractor** relating to the **Work**.

20.8 The **Contractor** shall not require any performance, payment or other bonds of any **Subcontractor** if this **Contract** does not require such bonds of the **Contractor**.

20.9 The payment guarantee made pursuant to this Article 20 shall be construed in a manner consistent with Section 137 of the State Finance Law and shall afford to persons furnishing labor or materials to the **Contractor** or its **Subcontractors** in the prosecution of the **Work** under this **Contract** all of the rights and remedies afforded to such persons by such section, including but not limited to, the right to commence an action against the **City** on the payment guarantee provided by this Article 20 within the one-year limitations period set forth in Section 137(4)(b).

ARTICLE 21. RETAINED PERCENTAGE

21.1 If this **Contract** requires one hundred (100%) percent performance and payment security, then as further security for the faithful performance of this **Contract**, the **Commissioner** shall deduct, and retain until the substantial completion of the **Work**, five (5%) percent of the value of **Work** certified for payment in each partial payment voucher.

21.2 If this **Contract** does not require one hundred (100%) percent performance and payment security and if the price for which this **Contract** was awarded does not exceed one million ($1,000,000) dollars, then as further security for the faithful performance of this **Contract**, the **Commissioner** shall deduct, and retain until the substantial completion of the **Work**, five (5%) percent of the value of **Work** certified for payment in each partial payment voucher.

21.3 If this **Contract** does not require one hundred (100%) percent performance and payment security and if the price for which this **Contract** was awarded exceeds one million ($1,000,000) dollars, then as further security for the faithful performance of this **Contract,** the **Commissioner** shall deduct, and retain until the substantial completion of the **Work**, up to ten (10%) percent of the value of **Work** certified for payment in each partial payment voucher. The percentage to be retained is set forth in Schedule A of the General Conditions.

ARTICLE 22. INSURANCE

22.1 Types of Insurance: The **Contractor** shall procure and maintain the following types of insurance if, and as indicated, in Schedule A of the General Conditions (with the minimum limits and special conditions specified in Schedule A). Such insurance shall be maintained from the date the **Contractor** is required to provide Proof of Insurance pursuant to Article 22.3.1 through the date of completion of all required **Work** (including punch list work as certified in writing by the **Resident Engineer**), except for insurance required pursuant to Article 22.1.4, which may terminate upon **Substantial Completion** of the **Contract**. All insurance shall meet the requirements set forth in this Article 22. Wherever this Article requires that insurance coverage be "at least as broad" as a specified form (including all ISO forms), there is no obligation that the form itself be used, provided that the **Contractor** can demonstrate that the alternative form or endorsement contained in its policy provides coverage at least as broad as the specified form.

22.1.1 Commercial General Liability Insurance: The **Contractor** shall provide Commercial General Liability Insurance covering claims for property damage and/or bodily injury, including death, which may arise from any of the operations under this **Contract**. Coverage under this insurance shall be at least as broad as that provided by the latest edition of Insurance

Services Office ("ISO") Form CG 0001. Such insurance shall be "occurrence" based rather than "claims-made" and include, without limitation, the following types of coverage: premises operations; products and completed operations; contractual liability (including the tort liability of another assumed in a contract); broad form property damage; independent contractors; explosion, collapse and underground (XCU); construction means and methods; and incidental malpractice. Such insurance shall contain a "per project" aggregate limit, as specified in Schedule A, that applies separately to operations under this **Contract**.

22.1.1(a) Such Commercial General Liability Insurance shall name the **City** as an Additional Insured. Coverage for the City shall specifically include the **City's** officials and employees, be at least as broad as the latest edition of ISO Form CG 20 10 and provide completed operations coverage at least as broad as the latest edition of ISO Form CG 20 37.

22.1.1(b) Such Commercial General Liability Insurance shall name all other entities designated as additional insureds in Schedule A but only for claims arising from the **Contractor's** operations under this **Contract**, with coverage at least as broad as the latest edition of ISO Form CG 20 26.

22.1.1(c) If the **Work** requires a permit from the Department of Buildings pursuant to 1 RCNY Section 101-08, the **Contractor** shall provide Commercial General Liability Insurance with limits of at least those required by 1 RCNY section 101-08 or greater limits required by the Agency in accordance with Schedule A. If the **Work** does not require such a permit, the minimum limits shall be those provided for in Schedule A.

22.1.1(d) If any of the **Work** includes repair of a waterborne vessel owned by or to be delivered to the **City**, such Commercial General Liability shall include, or be endorsed to include, Ship Repairer's Legal Liability Coverage to protect against, without limitation, liability arising from navigation of such vessels prior to delivery to and acceptance by the **City**.

22.1.2 Workers' Compensation Insurance, Employers' Liability Insurance, and Disability Benefits Insurance: The **Contractor** shall provide, and shall cause its **Subcontractors** to provide, Workers Compensation Insurance, Employers' Liability Insurance, and Disability Benefits Insurance in accordance with the **Laws** of the State of New York on behalf of all employees providing services under this **Contract** (except for those employees, if any, for which the **Laws** require insurance only pursuant to Article 22.1.3).

22.1.3 United States Longshoremen's and Harbor Workers Act and/or Jones Act Insurance: If specified in Schedule A of the General Conditions or if required by **Law**, the **Contractor** shall provide insurance in accordance with the United States Longshoremen's and Harbor Workers Act and/or the Jones Act, on behalf of all qualifying employees providing services under this **Contract**.

22.1.4 Builders Risk Insurance: If specified in Schedule A of the General Conditions, the **Contractor** shall provide Builders Risk Insurance on a completed value form for the total value of the **Work** through **Substantial Completion** of the **Work** in its entirety. Such insurance shall be provided on an All Risk basis and include coverage, without limitation, for windstorm (including named windstorm), storm surge, flood and earth movement. Unless waived by the **Commissioner**, it shall include coverage for ordinance and law, demolition and increased costs of construction, debris removal, pollutant clean up and removal, and expediting costs. Such insurance shall cover, without limitation, (a) all buildings and/or structures involved in the

Work, as well as temporary structures at the **Site**, and (b) any property that is intended to become a permanent part of such building or structure, whether such property is on the **Site**, in transit or in temporary storage. Policies shall name the **Contractor** as Named Insured and list the **City** as both an Additional Insuredand a Loss Payee as its interest may appear.

22.1.4(a) Policies of such insurance shall specify that, in the event a loss occurs at an occupied facility, occupancy of such facility is permitted without the consent of the issuing insurance company.

22.1.4(b) Such insurance may be provided through an Installation Floater, at the **Contractor's** option, if it otherwise conforms with the requirements of this Article 22.1.4.

22.1.5 Commercial Automobile Liability Insurance: The **Contractor** shall provide Commercial Automobile Liability Insurance for liability arising out of ownership, maintenance or use of any owned (if any), non-owned and hired vehicles to be used in connection with this **Contract**. Coverage shall be at least as broad as the latest edition of ISO Form CA0001. If vehicles are used for transporting hazardous materials, the Automobile Liability Insurance shall be endorsed to provide pollution liability broadened coverage for covered vehicles (endorsement CA 99 48) as well as proof of MCS 90.

22.1.6 Contractors Pollution Liability Insurance: If specified in Schedule A of the General Conditions, the **Contractor** shall maintain, or cause the **Subcontractor** doing such **Work**to maintain, Contractors Pollution Liability Insurance covering bodily injury and property damage. Such insurance shall provide coverage for actual, alleged or threatened emission, discharge, dispersal, seepage, release or escape of pollutants (including asbestos), including any loss, cost or expense incurred as a result of any cleanup of pollutants (including asbestos) or in the investigation, settlement or defense of any claim, action, or proceedings arising from the operations under this **Contract**. Such insurance shall be in the **Contractor's** name and list the **City** as an Additional Insured and any other entity specified in Schedule A. Coverage shall include, without limitation, (a) loss of use of damaged property or of property that has not been physically injured, (b) transportation, and (c) non- owned disposal sites.

22.1.6(a) Coverage for the **City** as Additional Insured shall specifically include the **City's** officials and employees and be at least as broad as provided to the **Contractor** for this **Project**.

22.1.6(b) If such insurance is written on a claims-made policy, such policy shall have a retroactive date on or before the effective date of this **Contract**, and continuous coverage shall be maintained, or an extended discovery period exercised, for a period of not less than three (3) years from the time the **Work** under this **Contract** is completed.

22.1.7 Marine Insurance:

22.1.7(a) Marine Protection and Indemnity Insurance: If specified in Schedule A of the General Conditions or if the **Contractor** engages in marine operations in the execution of any part of the **Work**, the **Contractor** shall maintain, or cause the**Subcontractor** doing such Work to maintain, Marine Protection and Indemnity Insurance with coverage at least as broad as Form SP-23. The insurance shall provide coverage for the **Contractor** or **Subcontractor** (whichever is doing this **Work**) and for the **City** (together with its officials and employees) and any other entity specified in Schedule A as an Additional Insured for bodily injury and property damage arising from marine operations under this

Contract. Coverage shall include, without limitation, injury or death of crew members (if not fully provided through other insurance), removal of wreck, damage to piers, wharves and other fixed or floating objects and loss of or damage to any other vessel or craft, or to property on such other vessel or craft.

22.1.7(b) Hull and Machinery Insurance: If specified in Schedule A of the General Conditions or if the **Contractor** engages in marine operations in the execution of any part of the **Work**, the **Contractor** shall maintain, or cause the **Subcontractor** doing such **Work** to maintain, Hull and Machinery Insurance with coverage for the **Contractor** or **Subcontractor** (whichever is doing this Work) and for the **City** (together with its officials and employees) as Additional Insured at least as broad as the latest edition of American Institute Tug Form for all tugs used under this **Contract** and Collision Liability at least as broad as the latest edition of American Institute Hull Clauses.

22.1.7(c) Marine Pollution Liability Insurance: If specified in Schedule A of the General Conditions or if the **Contractor** engages in marine operations in the execution of any part of the **Work**, the **Contractor** shall maintain, or cause the **Subcontractor** doing such Work to maintain, Marine Pollution Liability Insurance covering itself (or the Subcontractor doing such Work) as Named Insured and the **City** (together with its officials and employees) and any other entity specified in Schedule A as an Additional Insured. Coverage shall be at least as broad as that provided by the latest edition of Water Quality Insurance Syndicate Form and include, without limitation, liability arising from the discharge or substantial threat of a discharge of oil, or from the release or threatened release of a hazardous substance including injury to, or economic losses resulting from, the destruction of or damage to real property, personal property or natural resources.

22.1.8 The **Contractor** shall provide such other types of insurance, at such minimum limits and with such conditions, as are specified in Schedule A of the General Conditions.

22.2 General Requirements for Insurance Coverage and Policies:

22.2.1 All required insurance policies shall be maintained with companies that may lawfully issue the required policy and have an A.M. Best rating of at least A-/VII or a Standard and Poor's rating of at least A, unless prior written approval is obtained from the **City** Corporation Counsel.

22.2.2 The **Contractor** shall be solely responsible for the payment of all premiums for all required policies and all deductibles and self-insured retentions to which such policies are subject, whether or not the **City** is an insured under the policy.

22.2.3 In his/her sole discretion, the **Commissioner** may, subject to the approval of the **Comptroller** and the **City** Corporation Counsel, accept Letters of Credit and/or custodial accounts in lieu of required insurance.

22.2.4 The **City's** limits of coverage for all types of insurance required pursuant to Schedule A of the General Conditions shall be the greater of (i) the minimum limits set forth in Schedule A or (ii) the limits provided to the **Contractor** as Named Insured under all primary, excess, and umbrella policies of that type of coverage.

22.2.5 The **Contractor** may satisfy its insurance obligations under this Article 22 through primary policies or a combination of primary and excess/umbrella policies, so long as all policies provide the scope of coverage required herein.

22.2.6 Policies of insurance provided pursuant to this Article 22 shall be primary and non-contributing to any insurance or self-insurance maintained by the **City**.

22.3 Proof of Insurance:

22.3.1 For all types of insurance required by Article 22.1 and Schedule A, except for insurance required by Articles 22.1.4 and 22.1.7, the **Contractor** shall file proof of insurance in accordance with this Article 22.3 within ten (10) **Days** of award. For insurance provided pursuant to Articles 22.1.4 and 22.1.7, proof shall be filed by a date specified by the **Commissioner** or ten (10) **Days** prior to the commencement of the portion of the **Work** covered by such policy, whichever is earlier.

22.3.2 For Workers' Compensation Insurance provided pursuant to Article 22.1.2, the **Contractor** shall submit one of the following forms: C-105.2 Certificate of Workers' Compensation Insurance; U-26.3 - State Insurance Fund Certificate of Workers' Compensation Insurance; Request for WC/DB Exemption (Form CE-200); equivalent or successor forms used by the New York State Workers' Compensation Board; or other proof of insurance in a form acceptable to the **Commissioner**. For Disability Benefits Insurance provided pursuant to Article 22.1.2, the Contractor shall submit DB-120.1 - Certificate Of Insurance Coverage Under The NYS Disability Benefits Law, Request for WC/DB Exemption (Form CE-200); equivalent or successor forms used by the New York State Workers' Compensation Board; or other proof of insurance in a form acceptable to the **Commissioner**. ACORD forms are not acceptable.

22.3.3 For policies provided pursuant to all of Article 22.1 other than Article 22.1.2, the **Contractor** shall submit one or more Certificates of Insurance on forms acceptable to the **Commissioner**. All such Certificates of Insurance shall certify (a) the issuance and effectiveness of such policies of insurance, each with the specified minimum limits (b) for insurance secured pursuant to Article 22.1.1 that the **City** and any other entity specified in Schedule A is an Additional Insured thereunder; (c) in the event insurance is required pursuant to Article 22.1.6 and/or Article 22.1.7, that the City is an Additional Insured thereunder; (d) the company code issued to the insurance company by the National Association of Insurance Commissioners (the NAIC number); and (e) the number assigned to the **Contract** by the **City**. All such Certificates of Insurance shall be accompanied by either a duly executed "Certification by Insurance Broker or Agent" in the form contained in Part III of Schedule A or copies of all policies referenced in such Certificate of Insurance as certified by an authorized representative of the issuing insurance carrier. If any policy is not available at the time of submission, certified binders may be submitted until such time as the policy is available, at which time a certified copy of the policy shall be submitted.

22.3.4 Documentation confirming renewals of insurance shall be submitted to the **Commissioner** prior to the expiration date of coverage of policies required under this **Contract**. Such proofs of insurance shall comply with the requirements of Articles 22.3.2 and 22.3.3.

22.3.5 The **Contractor** shall be obligated to provide the **City** with a copy of any policy of insurance provided pursuant to this Article 22 upon the demand for such policy by the **Commissioner** or the **City** Corporation Counsel.

22.4 Operations of the **Contractor**:

22.4.1 The **Contractor** shall not commence the **Work** unless and until all required certificates have been submitted to and accepted by the **Commissioner**. Acceptance by the

Commissioner of a certificate does not excuse the **Contractor** from securing insurance consistent with all provisions of this Article 22 or of any liability arising from its failure todo so.

22.4.2 The **Contractor** shall be responsible for providing continuous insurance coverage in the manner, form, and limits required by this **Contract** and shall be authorized to perform **Work** only during the effective period of all required coverage.

22.4.3 In the event that any of the required insurance policies lapse, are revoked, suspended or otherwise terminated, for whatever cause, the **Contractor** shall immediately stop all **Work**, and shall not recommence **Work** until authorized in writing to do so by the **Commissioner**. Upon quitting the **Site**, except as otherwise directed by the **Commissioner**, the **Contractor** shall leave all plant, materials, equipment, tools, and supplies on the **Site**. **Contract** time shall continue to run during such periods and no extensions of time will be granted. The **Commissioner** may also declare the **Contractor** in default for failure to maintain required insurance.

22.4.4 In the event the **Contractor** receives notice, from an insurance company or other person, that any insurance policy required under this Article 22 shall be cancelled or terminated (or has been cancelled or terminated) for any reason, the **Contractor** shall immediately forward a copy of such notice to both the **Commissioner** and the New York City Comptroller, attn: Office of Contract Administration, Municipal Building, One Centre Street, room 1005, New York, New York 10007. Notwithstanding the foregoing, the **Contractor** shall ensure that there is no interruption in any of the insurance coverage required under this Article 22.

22.4.5 Where notice of loss, damage, occurrence, accident, claim or suit is required under an insurance policy maintained in accordance with this Article 22, the **Contractor** shall notify in writing all insurance carriers that issued potentially responsive policies of any such event relating to any operations under this **Contract** (including notice to Commercial General Liability insurance carriers for events relating to the **Contractor**'s own employees) no later than 20 days after such event. For any policy where the **City** is an Additional Insured, such notice shall expressly specify that "this notice is being given on behalf of the City of New York as Insured as well as the Named Insured." Such notice shall also contain the following information: the number of the insurance policy, the name of the named insured, the date and location of the damage, occurrence, or accident, and the identity of the persons or things injured, damaged or lost. The **Contractor** shall simultaneously send a copy of such notice to the City of New York c/o Insurance Claims Specialist, Affirmative Litigation Division, New York City Law Department, 100 Church Street, New York, New York 10007.

22.4.6 In the event of any loss, accident, claim, action, or other event that does or can give rise to a claim under any insurance policy required under this Article 22, the **Contractor** shall at all times fully cooperate with the **City** with regard to such potential or actual claim.

22.5 **Subcontractor** Insurance: In the event the **Contractor** requires any **Subcontractor** to procure insurance with regard to any operations under this **Contract** and requires such **Subcontractor** to name the **Contractor** as an **Additional Insured** thereunder, the **Contractor** shall ensure that the **Subcontractor** name the **City**, including its officials and employees, as an Additional Insured with coverage at least as broad as the most recent edition of ISO Form CG 20 26.

22.6 Wherever reference is made in Article 7 or this Article 22 to documents to be sent to the **Commissioner** (e.g., notices, filings, or submissions), such documents shall be sent to the address set forth in Schedule A of the General Conditions. In the event no address is set forth in Schedule A, such documents

are to be sent to the **Commissioner's** address as provided elsewhere in this **Contract**.

22.7 Apart from damages or losses covered by insurance provided pursuant to Articles 22.1.2, 22.1.3, or 22.1.5, the **Contractor** waives all rights against the **City**, including its officials and employees, for any damages or losses that are covered under any insurance required under this Article 22 (whether or not such insurance is actually procured or claims are paid thereunder) or any other insurance applicableto the operations of the **Contractor** and/or its employees, agents, or **Subcontractors**.

22.8 In the event the **Contractor** utilizes a self-insurance program to satisfy any of the requirements of this Article 22, the **Contractor** shall ensure that any such self-insurance program provides the **City** with all rights that would be provided by traditional insurance under this Article 22, including but not limited to the defense and indemnification obligations that insurers are required to undertake in liability policies.

22.9 Materiality/Non-Waiver: The **Contractor's** failure to secure policies in complete conformity with this Article 22, or to give an insurance company timely notice of any sort required in this **Contract** or to do anything else required by this Article 22 shall constitute a material breach of this **Contract**. Such breach shall not be waived or otherwise excused by any action or inaction by the **City** at any time.

22.10 Pursuant to General Municipal Law Section 108, this **Contract** shall be void and of no effect unless **Contractor** maintains Workers' Compensation Insurance for the term of this **Contract** tothe extent required and in compliance with the New York State Workers' Compensation Law.

22.11 Other Remedies: Insurance coverage provided pursuant to this Article 22 or otherwise shall not relieve the **Contractor** of any liability under this **Contract**, nor shall it preclude the **City** from exercising any rights or taking such other actions available to it under any other provisions of this **Contract** or **Law**.

ARTICLE 23. MONEY RETAINED AGAINST CLAIMS

23.1 If any claim shall be made by any person or entity (including **Other Contractors** with the **City** on this **Project**) against the **City** or against the **Contractor** and the **City** for any of the following:

(a) An alleged loss, damage, injury, theft or vandalism of any of the kinds referred to in Articles 7 and 12, plus the reasonable costs of defending the **City**, which in the opinion of the **Comptroller** may not be paid by an insurance company (for any reason whatsoever);or

(b) An infringement of copyrights, patents or use of patented articles, tools, etc., asreferred to in Article 57; or

(c) Damage claimed to have been caused directly or indirectly by the failure of the **Contractor** to perform the **Work** in strict accordance with this **Contract,**

the amount of such claim, or so much thereof as the **Comptroller** may deem necessary, may be withheld by the **Comptroller**, as security against such claim, from any money due hereunder. The **Comptroller**, in his/her discretion, may permit the **Contractor** to substitute other satisfactory security in lieu of the monies so withheld.

23.2 If an action on such claim is timely commenced and the liability of the **City**, or the **Contractor**,

or both, shall have been established therein by a final judgment of a court of competent jurisdiction, or if such claim shall have been admitted by the **Contractor** to be valid, the **Comptroller** shall pay such judgment or admitted claim out of the monies retained by the **Comptroller** under the provisions of this Article 23, and return the balance, if any, without interest, to the **Contractor**.

ARTICLE 24. MAINTENANCE AND GUARANTY

24.1 The **Contractor** shall promptly repair, replace, restore or rebuild, as the **Commissioner** may determine, any finished **Work** in which defects of materials or workmanship may appear or to which damage may occur because of such defects, during the one (1) year period subsequent to the date of **Substantial Completion** (or use and occupancy in accordance with Article 16), except where other periods of maintenance and guaranty are provided for in Schedule A.

24.2 As security for the faithful performance of its obligations hereunder, the **Contractor**, upon filing its requisition for payment on **Substantial Completion**, shall deposit with the **Commissioner** a sum equal to one (1%) percent of the price (or the amount fixed in Schedule A of the General Conditions) in cash or certified check upon a state or national bank and trust company or a check of such bank and trust company signed by a duly authorized officer thereof and drawn to the order of the **Comptroller**, or obligations of the **City**, which the **Comptroller** may approve as of equal value with the sum so required.

24.3 In lieu of the above, the **Contractor** may make such security payment to the **City** byauthorizing the **Commissioner** in writing to deduct the amount from the **Substantial Completion** payment which shall be deemed the deposit required above.

24.4 If the **Contractor** has faithfully performed all of its obligations hereunder the **Commissioner** shall so certify to the **Comptroller** within five (5) **Days** after the expiration of one (1) year from the date of **Substantial Completion** and acceptance of the **Work** or within thirty (30) **Days** after the expirationof the guarantee period fixed in the **Specifications**. The security payment shall be repaid to the **Contractor** without interest within thirty (30) **Days** after certification by the **Commissioner** to the **Comptroller** that the **Contractor** has faithfully performed all of its obligations hereunder.

24.5 Notice by the **Commissioner** to the **Contractor** to repair, replace, rebuild or restore such defective or damaged **Work** shall be timely, pursuant to this article, if given not later than ten (10) **Days** subsequent to the expiration of the one (1) year period or other periods provided for herein.

24.6 If the **Contractor** shall fail to repair, replace, rebuild or restore such defective or damaged **Work** promptly after receiving such notice, the **Commissioner** shall have the right to have the **Work** done by others in the same manner as provided for in the completion of a defaulted **Contract**, under Article 51.

24.7 If the security payment so deposited is insufficient to cover the cost of such **Work**, the **Contractor** shall be liable to pay such deficiency on demand by the **Commissioner**.

24.8 The **Engineer's** certificate setting forth the fair and reasonable cost of repairing, replacing, rebuilding or restoring any damaged or defective **Work** when performed by one other than the **Contractor**, shall be binding and conclusive upon the **Contractor** as to the amount thereof.

24.9 The **Contractor** shall obtain all manufacturers' warranties and guaranties of all equipment and materials required by this **Contract** in the name of the **City** and shall deliver same to the **Commissioner**. All of the **City's** rights and title and interest in and to said manufacturers' warranties and guaranties may be assigned by the **City** to any subsequent purchasers of such equipment and materials or lessees of the

premises into which the equipment and materials have been installed.

CHAPTER VI: CHANGES, EXTRA WORK, AND DOCUMENTATION OF CLAIM

ARTICLE 25. CHANGES

25.1 Changes may be made to this **Contract** only as duly authorized in writing by the **Commissioner** in accordance with the **Law** and this **Contract**. All such changes, modifications, and amendments will become a part of the **Contract**. **Work** so ordered shall be performed by the **Contractor**.

25.2 **Contract** changes will be made only for **Work** necessary to complete the **Work** included inthe original scope of the **Contract** and/or for non-material changes to the scope of the **Contract**. Changes are not permitted for any material alteration in the scope of **Work** in the **Contract**.

25.3 The **Contractor** shall be entitled to a price adjustment for **Extra Work** performed pursuant toa written change order. Adjustments to price shall be computed in one or more of the following ways:

25.3.1 By applicable unit prices specified in the **Contract**; and/or

25.3.2 By agreement of a fixed price; and/or

25.3.3 By time and material records; and/or

25.3.4 In any other manner approved by the **CCPO**.

25.4 All payments for change orders are subject to pre-audit by the **Engineering Audit Officer** and may be post-audited by the **Comptroller** and/or the **Agency**.

ARTICLE 26. METHODS OF PAYMENT FOR OVERRUNS AND EXTRA WORK

26.1 Overrun of Unit Price Item: An overrun is any quantity of a unit price item which the **Contractor** is directed to provide which is in excess of one hundred twenty-five (125%) percent of the estimated quantity for that item set forth in the bid schedule.

26.1.1 For any unit price item, the **Contractor** will be paid at the unit price bid for any quantity up to one hundred twenty-five (125%) percent of the estimated quantity for that item set forth in the bid schedule. If during the progress of the **Work**, the actual quantity of any unit price item required to complete the **Work** approaches the estimated quantity forthat item, and for any reason it appears that the actual quantity of any unit price item necessary to complete the **Work** will exceed the estimated quantity for that item by twenty- five (25%) percent, the **Contractor** shall immediately notify the **Engineer** of such anticipated overrun. The **Contractor** shall not be compensated for any quantity of a unit price item provided which is in excess of one hundred twenty-five (125%) percent of the estimated quantity for that item set forth in the bid schedule without written authorization from the **Engineer**.

26.1.2 If the actual quantity of any unit price item necessary to complete the **Work** will exceed one hundred twenty five (125%) percent of the estimated quantity for that item set forth in the bid schedule, the **City** reserves the right and the **Contractor** agrees to negotiate a new unit price for such item. In no event shall such negotiated new unit price exceed the unit bid price. If the **City** and **Contractor** cannot agree on a new unit price, then the **City** shall order the **Contractor** and the **Contractor** agrees to provide additional quantities of the item on the

basis of time and material records for the actual and reasonable cost as determined under Article 26.2, but in no event at a unit price exceeding the unit price bid.

26.2 **Extra Work:** For **Extra Work** where payment is by agreement on a fixed price in accordance with Article 25.3.2, the price to be paid for such **Extra Work** shall be based on the fair and reasonable estimated cost of the items set forth below. For **Extra Work** where payment is based on time and material records in accordance with Article 25.3.3, the price to be paid for such **Extra Work** shall be the actual and reasonable cost of the items set forth below, calculated in accordance with the formula specified therein, if any.

26.2.1 Necessary materials (including transportation to the **Site**); plus

26.2.2 Necessary direct labor, including payroll taxes (subject to statutory wage caps) and supplemental benefits; plus

26.2.3 Sales and personal property taxes, if any, required to be paid on materials not incorporated into such **Extra Work**; plus

26.2.4 Reasonable rental value of **Contractor**-owned (or **Subcontractor**-owned, as applicable), necessary plant and equipment other than **Small Tools**, plus fuel/energy costs. Except for fuel costs for pick-up trucks which shall be reimbursed based on a consumption of five (5) gallons per shift, fuel costs shall be reimbursed based on actual costs or, in the absence of auditable documentation, the following fuel consumption formula per operating hour: (.035) x (HP rating) x (Fuel cost/gallon). Reasonable rental value is defined as the lower of either seventy-five percent of the monthly prorated rental rates established in "The AED Green Book, Rental Rates and Specifications for Construction Equipment" published by Equipment Watch (the "Green Book"), or seventy-five percent of the monthly prorated rental rates established in the "Rental Rate Blue Book for Construction Equipment" published by Equipment Watch (the "Blue Book") (the applicable Blue Book rate being for rental only without the addition of any operational costs listed in the Blue Book). The reasonable rental value is deemed to be inclusive of all operating costs except for fuel/energy consumption and equipment operator's wages/costs. For multiple shift utilization, reimbursement shall be calculated as follows: first shift shall be seventy-five (75%) percent of such rental rates; second shift shall be sixty (60%) percent of the first shift rate; and third shift shall be forty (40%) percent of the first shift rate. Equipment on standby shall be reimbursed at one-third (1/3) the prorated monthly rental rate. **Contractor**-owned (or **Subcontractor**-owned, as applicable) equipment includes equipment from rental companies affiliated with or controlled by the **Contractor** (or **Subcontractor**, as applicable)**,** as determined by the **Commissioner**. In establishing cost reimbursement for non-operating **Contractor**-owned (or **Subcontractor**-owned, as applicable) equipment (scaffolding, sheeting systems, road plates, etc.), the **City** may restrict reimbursement to a purchase-salvage/life cycle basis if less than the computed rental costs; plus

26.2.5 Necessary installation and dismantling of such plant and equipment, including transportation to and from the **Site**, if any, provided that, in the case of non-**Contractor**-owned (or non-**Subcontractor**-owned, as applicable) equipment rented from a third party, the cost of installation and dismantling are not allowable if such costs are included in the rental rate; plus

26.2.6 Necessary fees charged by governmental entities; plus

26.2.7 Necessary construction-related service fees charged by non-governmental entities, such as landfill tipping fees; plus

26.2.8 Reasonable rental costs of non-**Contractor**-owned (or non-**Subcontractor**-owned, as applicable) necessary plant and equipment other than **Small Tools**, plus fuel/energy costs. Except for fuel costs for pick-up trucks which shall be reimbursed based on a consumption of five (5) gallons per shift, fuel costs shall be reimbursed based on actual costs or, in the absence of auditable documentation, the following fuel consumption formula per hour of operation: (.035) x (HP rating) x (Fuel cost/gallon). In lieu of renting, the **City** reserves the right to direct the purchase of non-operating equipment (scaffolding, sheeting systems, road plates, etc.), with payment on a purchase-salvage/life cycle basis, if less than the projected rental costs; plus

26.2.9 Workers' Compensation Insurance, and any insurance coverage expressly required by the **City** for the performance of the **Extra Work** which is different than the types of insurance required by Article 22 and Schedule A of the General Conditions. The cost of Workers' Compensation Insurance is subject to applicable payroll limitation caps and shall be based upon the carrier's Manual Rate for such insurance derived from the applicable class Loss Cost ("LC") and carrier's Lost Cost Multiplier ("LCM") approved by the New York State Department of Financial Services, and with the exception of experience rating, rate modifiers as promulgated by the New York Compensation Insurance Rating Board ("NYCIRB"); plus

26.2.10 Additional costs incurred as a result of the **Extra Work** for performance and payment bonds; plus

26.2.11 Twelve percent (12%) percent of the total of items in Articles 26.2.1 through 26.2.5 as compensation for overhead, except that no percentage for overhead will be allowed on **Payroll Taxes** or on the premium portion of overtime pay or on sales and personal property taxes. Overhead shall include without limitation, all costs and expenses in connection with administration, management superintendence, small tools, and insurance required by Schedule A of the General Conditions other than Workers' Compensation Insurance; plus

26.2.12 Ten (10%) percent of the total of items in Articles 26.2.1 through 26.2.5, plus the items in Article 26.2.11, as compensation for profit, except that no percentage for profit will be allowed on **Payroll Taxes** or on the premium portion of overtime pay or on sales and personal property taxes; plus

26.2.13 Five (5%) percent of the total of items in Articles 26.2.6 through 26.2.10 as compensation for overhead and profit.

26.3 Where the **Extra Work** is performed in whole or in part by other than the **Contractor's** own forces pursuant to Article 26.2, the **Contractor** shall be paid, subject to pre-audit by the **Engineering Audit Officer**, the cost of such **Work** computed in accordance with Article 26.2 above, plus an additional allowance of five (5%) percent to cover the **Contractor's** overhead and profit.

26.4 Where a change is ordered, involving both **Extra Work** and omitted or reduced **Contract Work,** the **Contract** price shall be adjusted, subject to pre-audit by the **EAO**, in an amount based on the difference between the cost of such **Extra Work** and of the omitted or reduced **Work**.

26.5 Where the **Contractor** and the **Commissioner** can agree upon a fixed price for **Extra Work** in accordance with Article 25.3.2 or another method of payment for **Extra Work** in accordance with Article 25.3.4, or for **Extra Work** ordered in connection with omitted **Work**, such method, subject to pre-audit by the **EAO**, may, at the option of the **Commissioner**, be substituted for the cost plus a percentage method provided in Article 26.2; provided, however, that if the **Extra Work** is performed by a **Subcontractor**, the **Contractor** shall not be entitled to receive more than an additional allowance of five (5%) percent for overhead and profit over

the cost of such **Subcontractor's Work** as computed in accordance with Article 26.2.

ARTICLE 27. RESOLUTION OF DISPUTES

27.1 All disputes between the **City** and the **Contractor** of the kind delineated in this Article 27.1 that arise under, or by virtue of, this **Contract** shall be finally resolved in accordance with the provisions of this Article 27 and the **PPB** Rules. This procedure for resolving all disputes of the kind delineated herein shall be the exclusive means of resolving any such disputes.

27.1.1 This Article 27 shall not apply to disputes concerning matters dealt with in other sections of the **PPB** Rules, or to disputes involving patents, copyrights, trademarks, or trade secrets (as interpreted by the courts of New York State) relating to proprietary rights in computer software.

27.1.2 This Article 27 shall apply only to disputes about the scope of **Work** delineated by the **Contract**, the interpretation of **Contract** documents, the amount to be paid for **Extra Work** or disputed work performed in connection with the **Contract**, the conformity of the **Contractor's Work** to the **Contract**, and the acceptability and quality of the **Contractor's Work**; such disputes arise when the **Engineer**, **Resident Engineer**, **Engineering Audit Officer**, or other designee of the **Commissioner** makes a determination with which the **Contractor** disagrees.

27.2 All determinations required by this Article 27 shall be made in writing clearly stated, with a reasoned explanation for the determination based on the information and evidence presented to the party making the determination. Failure to make such determination within the time required by this Article 27 shall be deemed a non-determination without prejudice that will allow application to the next level.

27.3 During such time as any dispute is being presented, heard, and considered pursuant to this Article 27, the **Contract** terms shall remain in force and the **Contractor** shall continue to perform **Work** as directed by the **ACCO** or the **Engineer**. Failure of the **Contractor** to continue **Work** as directed shall constitute a waiver by the **Contractor** of its claim.

27.4 Presentation of Disputes to **Commissioner**.

Notice of Dispute and Agency Response. The **Contractor** shall present its dispute in writing ("Notice of Dispute") to the **Commissioner** within thirty (30) Days of receiving written notice of the determination or action that is the subject of the dispute. This notice requirement shall not be read to replace any other notice requirements contained in the **Contract**. The Notice of Dispute shall include all the facts, evidence, documents, or other basis upon which the **Contractor** relies in support of its position, as well as a detailed computation demonstrating how any amount of money claimed by the **Contractor** inthe dispute was arrived at. Within thirty (30) Days after receipt of the detailed written submission comprising the complete Notice of Dispute, the **Engineer**, **Resident Engineer**, **Engineering Audit Officer**, or other designee of the **Commissioner** shall submit to the **Commissioner** all materials he or she deems pertinent to the dispute. Following initial submissions to the **Commissioner**, either party may demand of the other the production of any document or other material the demanding party believes may be relevant to the dispute. The requested party shall produce all relevant materials that are not otherwise protected by a legal privilege recognized by the courts of New York State. Any question of relevancy shall be determined by the **Commissioner** whose decision shall be final. Willful failure of the **Contractor** to produce any requested material whose relevancy the **Contractor** has not disputed, or whose relevancy has been affirmatively determined, shall constitute a waiver by the **Contractor** of its claim.

27.4.1 **Commissioner** Inquiry. The **Commissioner** shall examine the material and may, in his or her discretion, convene an informal conference with the **Contractor**, the **ACCO**, and the **Engineer**, **Resident Engineer**, **Engineering Audit Officer**, or other designee of the **Commissioner** to resolve the issue by mutual consent prior to reaching a determination. The **Commissioner** may seek such technical or other expertise as he or she shall deem appropriate, including the use of neutral mediators, and require any such additional material from either or both parties as he or she deems fit. The **Commissioner's** ability to render, and the effect of, a decision hereunder shall not be impaired by any negotiations in connection with the dispute presented, whether or not the **Commissioner** participated therein. The **Commissioner** may or, at the request of any party to the dispute, shall compel the participation of any **Other Contractor** with a contract related to the **Work** of this **Contract**, and that **Contractor** shall be bound by the decision of the **Commissioner**. Any **Other Contractor** thus brought into the dispute resolution proceeding shall have the same rights and obligations under this Article 27 as the **Contractor** initiating the dispute.

27.4.2 **Commissioner** Determination. Within thirty (30) **Days** after the receipt of all materials and information, or such longer time as may be agreed to by the parties, the **Commissioner** shall make his or her determination and shall deliver or send a copy of such determination to the **Contractor**, the **ACCO,** and **Engineer**, **Resident Engineer**,**Engineering Audit Officer**, or other designee of the **Commissioner**, as applicable, together with a statement concerning how the decision may be appealed.

27.4.3 Finality of **Commissioner's** Decision. The **Commissioner's** decision shall be final and binding on all parties, unless presented to the Contract Dispute Resolution Board pursuant to this Article 27. The **City** may not take a petition to the Contract Dispute Resolution Board. However, should the **Contractor** take such a petition, the **City** may seek, and the Contract Dispute Resolution Board may render, a determination less favorable to the **Contractor** and more favorable to the **City** than the decision of the **Commissioner**.

27.5 Presentation of Dispute to the **Comptroller**. Before any dispute may be brought by the **Contractor** to the Contract Dispute Resolution Board, the **Contractor** must first present its claim to the **Comptroller** for his or her review, investigation, and possible adjustment.

27.5.1 Time, Form, and Content of Notice. Within thirty (30) **Days** of its receipt of a decision by the **Commissioner,** the **Contractor** shall submit to the **Comptroller** and to the **Commissioner** a Notice of Claim regarding its dispute with the **Agency**. The Notice of Claim shall consist of (i) a brief written statement of the substance of the dispute, the amount of money, if any, claimed and the reason(s) the **Contractor** contends the dispute was wrongly decided by the **Commissioner**; (ii) a copy of the written decision of the **Commissioner**; and (iii) a copy of all materials submitted by the **Contractor** to the **Agency**, including the Notice of Dispute. The **Contractor** may not present to the **Comptroller** any material not presented to the **Commissioner**, except at the request of the **Comptroller**.

27.5.2 Response. Within thirty (30) **Days** of receipt of the Notice of Claim, the **Agency** shall make available to the **Comptroller** a copy of all material submitted by the **Agency** to the **Commissioner** in connection with the dispute. The **Agency** may not present to the **Comptroller** any material not presented to the **Commissioner** except at the request of the **Comptroller**.

27.5.3 **Comptroller** Investigation. The **Comptroller** may investigate the claim in dispute and, in the course of such investigation, may exercise all powers provided in Sections 7-201 and 7-203 of the Administrative Code. In addition, the **Comptroller** may demand of either party, and such party shall provide, whatever additional material the **Comptroller** deems pertinent to the claim, including original business records of the **Contractor**. Willful failure of the **Contractor** to produce within fifteen (15) **Days** any material requested by the **Comptroller** shall constitute a waiver by the **Contractor** of its claim. The **Comptroller** may also schedule an informal conference to be attended by the **Contractor**, **Agency** representatives, and any other personnel desired by the **Comptroller**.

27.5.4 Opportunity of **Comptroller** to Compromise or Adjust Claim. The **Comptroller** shall have forty-five (45) **Days** from his or her receipt of all materials referred to in Article 27.5.3 to investigate the disputed claim. The period for investigation and compromise may be further extended by agreement between the **Contractor** and the **Comptroller**, to a maximum of ninety (90) **Days** from the **Comptroller's** receipt of all materials. The **Contractor** may not present its petition to the Contract Dispute Resolution Board until the period for investigation and compromise delineated in this Article 27.5.4 has expired. In compromising or adjusting any claim hereunder, the **Comptroller** may not revise or disregard the terms of the **Contract** between the parties.

27.6 Contract Dispute Resolution Board. There shall be a Contract Dispute Resolution Board composed of:

27.6.1 The chief administrative law judge of the Office of Administrative Trials and Hearings (OATH) or his/her designated OATH administrative law judge, who shall act as chairperson, and may adopt operational procedures and issue such orders consistent with this Article 27 as may be necessary in the execution of the Contract Dispute Resolution Board's functions, including, but not limited to, granting extensions of time to present or respond to submissions;

27.6.2 The **CCPO** or his/her designee; any designee shall have the requisite background to consider and resolve the merits of the dispute and shall not have participated personally and substantially in the particular matter that is the subject of the dispute or report to anyone who so participated; and

27.6.3 A person with appropriate expertise who is not an employee of the **City**. This person shall be selected by the presiding administrative law judge from a prequalified panel of individuals, established and administered by OATH with appropriate background to act as decision-makers in a dispute. Such individual may not have a contract or dispute with the **City** or be an officer or employee of any company or organization that does, or regularly represents persons, companies, or organizations having disputes with the **City**.

27.7 Petition to the Contract Dispute Resolution Board. In the event the claim has not been settled or adjusted by the **Comptroller** within the period provided in this Article 27, the **Contractor**, within thirty (30) **Days** thereafter, may petition the Contract Dispute Resolution Board to review the

Commissioner's determination.

27.7.1 Form and Content of Petition by **Contractor**. The **Contractor** shall present its dispute to the Contract Dispute Resolution Board in the form of a petition, which shall include (i) a brief written statement of the substance of the dispute, the amount of money, if any, claimed, and the reason(s) the **Contractor** contends the dispute was wrongly decided by the **Commissioner**; (ii) a copy of the written Decision of the **Commissioner,** (iii) copies of all materials submitted by the **Contractor** to the Agency; (iv) a copy of the written decision of the **Comptroller**, if any, and (v) copies of all correspondence with, or written material submitted by the **Contractor**, to the **Comptroller**. The **Contractor** shall concurrently submit four (4) complete sets of the Petition: one set to the **City** Corporation Counsel (Attn: Commercial and Real Estate Litigation Division) and three (3) sets to the Contract Dispute Resolution Board at OATH's offices with proof of service on the **City** Corporation Counsel. In addition, the **Contractor** shall submit a copy of the written statement of the substance of the dispute, cited in (i) above, to both the **Commissioner** and the **Comptroller**.

27.7.2 **Agency** Response. Within thirty (30) **Days** of its receipt of the Petition by the **City** Corporation Counsel, the **Agency** shall respond to the brief written statement of the **Contractor** and make available to the Contract Dispute Resolution Board all material it submitted to the **Commissioner** and **Comptroller**. Three (3) complete copies of the **Agency** response shall be provided to the Contract Dispute Resolution Board and one to the **Contractor**. Extensions of time for submittal of the **Agency** response shall be given as necessary upon a showing of good cause or, upon consent of the parties, for an initial period of up to thirty (30) Days.

27.7.3 Further Proceedings. The Contract Dispute Resolution Board shall permit the **Contractor** to present its case by submission of memoranda, briefs, and oral argument. The Contract Dispute Resolution Board shall also permit the **Agency** to present its case in response to the **Contractor** by submission of memoranda, briefs, and oral argument. If requested by the **City** Corporation Counsel, the **Comptroller** shall provide reasonable assistance in the preparation of the **Agency's** case. Neither the **Contractor** nor the **Agency** may support its case with any documentation or other material that was not considered by the **Comptroller**, unless requested by the Contract Dispute Resolution Board. The Contract Dispute Resolution Board, in its discretion, may seek such technical or other expert advice as it shall deem appropriate and may seek, on its own or upon application of a party, any such additional material from any party as it deems fit. The Contract Dispute Resolution Board, in its discretion, may combine more than one dispute between the parties for concurrent resolution.

27.7.4 Contract Dispute Resolution Board Determination. Within forty-five (45) **Days** of the conclusion of all written submissions and oral arguments, the Contract Dispute Resolution Board shall render a written decision resolving the dispute. In an unusually complex case, the Contract Dispute Resolution Board may render its decision in a longer period, not to exceed ninety (90) **Days**, and shall so advise the parties at the commencement of this period. The Contract Dispute Resolution Board's decision must be consistent with the terms of the **Contract**. Decisions of the Contract Dispute Resolution Board shall only resolve matters before the Contract Dispute Resolution Board and shall not have precedential effect with respect to matters not before the Contract Dispute Resolution Board.

27.7.5 Notification of Contract Dispute Resolution Board Decision. The Contract Dispute Resolution Board shall send a copy of its decision to the **Contractor**, the **ACCO**, the Engineer, the **Comptroller**, the **City** Corporation Counsel, the CCPO, and the **PPB**. A decision in favor of the **Contractor** shall be subject to the prompt payment provisions of the **PPB** Rules. The

Required Payment Date shall be thirty (30) Days after the date the parties are formally notified of the Contract Dispute Resolution Board's decision.

27.7.6 Finality of Contract Dispute Resolution Board Decision. The Contract Dispute Resolution Board's decision shall be final and binding on all parties. Any party may seek review of the Contract Dispute Resolution Board's decision solely in the form of a challenge, filed within four (4) months of the date of the Contract Dispute Resolution Board's decision, in a court of competent jurisdiction of the State of New York, County of New York pursuant to Article 78 of the Civil Practice Law and Rules. Such review by the court shall be limited to the question of whether or not the Contract Dispute Resolution Board's decision was made in violation of lawful procedure, was affected by an error of **Law**, or was arbitrary and capricious or an abuse of discretion. No evidence or information shall be introduced or relied upon in such proceeding that was not presented to the Contract Dispute Resolution Board in accordance with this Article 27.

27.8 Any termination, cancellation, or alleged breach of the **Contract** prior to or during the pendency of any proceedings pursuant to this Article 27 shall not affect or impair the ability of the **Commissioner** or Contract Dispute Resolution Board to make a binding and final decision pursuant to this Article 27.

ARTICLE 28. RECORD KEEPING FOR EXTRA OR DISPUTED WORK OR WORK ON ATIME & MATERIALS BASIS

28.1 While the **Contractor** or any of its **Subcontractors** is performing **Work** on a time and material basis or **Extra Work** on a time and material basis ordered by the **Commissioner** under Article 25, or where the **Contractor** believes that it or any of its **Subcontractors** is performing **Extra Work** but a final determination by **Agency** has not been made, or the **Contractor** or any of its **Subcontractors** is performing disputed **Work** (whether on or off the **Site**), or complying with a determination or order under protest in accordance with Articles 11, 27, and 30, in each such case the **Contractor** shall furnish the **Resident Engineer** daily with three (3) copies of written statements signed by the **Contractor's** representative at the **Site** showing:

28.1.1 The name, trade, and number of each worker employed on such **Work** or engaged in complying with such determination or order, the number of hours employed, and the character of the **Work** each is doing; and

28.1.2 The nature and quantity of any materials, plant and equipment furnished or used in connection with the performance of such **Work** or compliance with such determination or order, and from whom purchased or rented.

28.2 A copy of such statement will be countersigned by the **Resident Engineer**, noting thereon any items not agreed to or questioned, and will be returned to the **Contractor** within two (2) **Days** after submission.

28.3 The **Contractor** and its **Subcontractors**, when required by the **Commissioner**, or the **Comptroller**, shall also produce for inspection, at the office of the **Contractor** or **Subcontractor**, any and all of its books, bid documents, financial statements, vouchers, records, daily job diaries and reports, and cancelled checks, and any other documents relating to showing the nature and quantity of the labor, materials, plant and equipment actually used in the performance of such **Work**, or in complying with such determination or order, and the amounts expended therefor, and shall permit the **Commissioner** and the

Comptroller to make such extracts therefrom, or copies thereof, as they or either of them may desire.

28.4 In connection with the examination provided for herein, the **Commissioner**, upon demand therefor, will produce for inspection by the **Contractor** such records as the **Agency** may have withrespect to such **Extra Work** or disputed **Work** performed under protest pursuant to order of the **Commissioner**, except those records and reports which may have been prepared for the purpose of determining the accuracy and validity of the **Contractor's** claim.

28.5 Failure to comply strictly with these requirements shall constitute a waiver of any claim for extra compensation or damages on account of the performance of such **Work** or compliance with such determination or order.

ARTICLE 29. OMITTED WORK

29.1 If any **Contract Work** in a lump sum **Contract**, or if any part of a lump sum item in a unit price, lump sum, or percentage-bid **Contract** is omitted by the **Commissioner** pursuant to Article 33, the **Contract** price, subject to audit by the EAO, shall be reduced by a pro rata portion of the lump sum bid amount based upon the percent of **Work** omitted subject to Article 29.4. For the purpose of determining the pro rata portion of the lump sum bid amount, the bid breakdown submitted in accordance with Article 41 shall be considered, but shall not be the determining factor.

29.2 If the whole of a lump sum item or units of any other item is so omitted by the **Commissioner** in a unit price, lump sum, or percentage-bid **Contract**, then no payment will be made therefor except as provided in Article 29.4.

29.3 For units that have been ordered but are only partially completed, the unit price shall be reduced by a pro rata portion of the unit price bid based upon the percentage of **Work** omitted subject to Article 29.4.

29.4 In the event the **Contractor**, with respect to any omitted **Work**, has purchased any non-cancelable material and/or equipment that is not capable of use except in the performance of this **Contract** and has been specifically fabricated for the sole purpose of this **Contract**, but not yet incorporated into the **Work**, the **Contractor** shall be paid for such material and/or equipment in accordance with Article 64.2.1(b); provided, however, such payment is contingent upon the **Contractor's** delivery of such material and/or equipment in acceptable condition to a location designated by the **City**.

29.5 The **Contractor** agrees to make no claim for damages or for loss of overhead and profit with regard to any omitted **Work**.

ARTICLE 30. NOTICE AND DOCUMENTATION OF COSTS AND DAMAGES; PRODUCTION OF FINANCIAL RECORDS

30.1 If the **Contractor** shall claim to be sustaining damages by reason of any act or omission of the **City** or its agents, it shall submit to the **Commissioner** within forty-five (45) **Days** from the time such damages are first incurred, and every thirty (30) **Days** thereafter to the extent additional damages are being incurred for the same condition, verified statements of the details and the amounts of such damages, together with documentary evidence of such damages. The **Contractor** may submit any of the above statements within such additional time as may be granted by the **Commissioner** in writing upon written request therefor. Failure of the **Commissioner** to respond in writing to a written request for additional time within thirty (30) **Days** shall be deemed a denial of the request. On failure of the **Contractor** to strictly comply with

the foregoing provisions, such claims shall be deemed waived and no right to recover on such claims shall exist. Damages that the **Contractor** may claim in any action or dispute resolution procedure arising under or by reason of this **Contract** shall not be different from or in excess of the statements and documentation made pursuant to this Article 30. This Article 30.1 does not apply to claims submitted to the **Commissioner** pursuant to Article 11 or to claims disputing a determination under Article 27.

30.2 In addition to the foregoing statements, the **Contractor** shall, upon notice from the **Commissioner**, produce for examination at the **Contractor's** office, by the **Engineer**, **Architect** or **Project Manager**, all of its books of account, bills, invoices, payrolls, subcontracts, time books, daily reports, bank deposit books, bank statements, check books, and cancelled checks, showing all of its acts and transactions in connection with or relating to or arising by reason of this **Contract**, and submit itself and persons in its employment, for examination under oath by any person designated by the **Commissioner** or **Comptroller** to investigate claims made or disputes against the **City** under this **Contract**. At such examination, a duly authorized representative of the **Contractor** may be present.

30.3 In addition to the statements required under Article 28 and this Article 30, the **Contractor** and/or its **Subcontractor** shall, within thirty (30) **Days** upon notice from the **Commissioner** or **Comptroller**, produce for examination at the **Contractor's** and/or **Subcontractor's** office, by a representative of either the **Commissioner** or **Comptroller**, all of its books of account, bid documents, financial statements, accountant workpapers, bills, invoices, payrolls, subcontracts, time books, daily reports, bank deposit books, bank statements, check books, and cancelled checks, showing all of its acts and transactions in connection with or relating to or arising by reason of this **Contract**. Further, the **Contractor** and/or its **Subcontractor** shall submit any person in its employment, for examination under oath by any person designated by the **Commissioner** or **Comptroller** to investigate claims made or disputes against the **City** under this **Contract**. At such examination, a duly authorized representative of the **Contractor** may be present.

30.4 Unless the information and examination required under Article 30.3 is provided by the **Contractor** and/or its **Subcontractor** upon thirty (30) **Days'** notice from the **Commissioner** or **Comptroller**, or upon the **Commissioner's** or **Comptroller's** written authorization to extend the time to comply, the **City** shall be released from all claims arising under, relating to or by reason of this **Contract**, except for sums certified by the **Commissioner** to be due under the provisions of this **Contract**. It is further stipulated and agreed that no person has the power to waive any of the foregoing provisions and that in any action or dispute resolution procedure against the **City** to recover any sum in excess of the sums certified by the **Commissioner** to be due under or by reason of this **Contract**, the **Contractor** must allege in its complaint and prove, at trial or during such dispute resolution procedure, compliance with the provisions of this Article 30.

30.5 In addition, after the commencement of any action or dispute resolution procedure by the **Contractor** arising under or by reason of this **Contract**, the **City** shall have the right to require the **Contractor** to produce for examination under oath, up until the trial of the action or hearing before the Contract Dispute Resolution Board, the books and documents described in Article 30.3 and submit itself and all persons in its employ for examination under oath. If this Article 30 is not complied with as required, then the **Contractor** hereby consents to the dismissal of the action or dispute resolutionprocedure.

CHAPTER VII: POWERS OF THE RESIDENT ENGINEER, THE ENGINEER ORARCHITECT AND THE COMMISSIONER

ARTICLE 31. THE RESIDENT ENGINEER

31.1 The **Resident Engineer** shall have the power to inspect, supervise, and control the performance

of the **Work**, subject to review by the **Commissioner**. The **Resident Engineer** shall not, however, have the power to issue an **Extra Work** order, except as specifically designated in writing bythe **Commissioner**.

ARTICLE 32. THE ENGINEER OR ARCHITECT OR PROJECT MANAGER

32.1 The **Engineer** or **Architect** or **Project Manager**, in addition to those matters elsewhere herein delegated to the **Engineer** and expressly made subject to his/her determination, direction or approval, shall have the power, subject to review by the **Commissioner**:

32.1.1 To determine the amount, quality, and location of the **Work** to be paid for hereunder; and

32.1.2 To determine all questions in relation to the **Work**, to interpret the **Contract Drawings**, **Specifications**, and **Addenda**, and to resolve all patent inconsistencies or ambiguities therein; and

32.1.3 To determine how the **Work** of this **Contract** shall be coordinated with **Work** of **Other Contractors** engaged simultaneously on this **Project**, including the power to suspend any part of the **Work**, but not the whole thereof; and

32.1.4 To make minor changes in the **Work** as he/she deems necessary, provided such changes do not result in a net change in the cost to the **City** or to the **Contractor** of the **Work** to be done under the **Contract**; and

32.1.5 To amplify the **Contract Drawings**, add explanatory information and furnish additional **Specifications** and drawings, consistent with this **Contract**.

32.2 The foregoing enumeration shall not imply any limitation upon the power of the **Engineer** or **Architect** or **Project Manager**, for it is the intent of this **Contract** that all of the **Work** shall generally be subject to his/her determination, direction, and approval, except where the determination, direction or approval of someone other than the **Engineer** or **Architect** or **Project Manager** is expressly called for herein.

32.3 The **Engineer** or **Architect** or **Project Manager** shall not, however, have the power to issuean **Extra Work** order, except as specifically designated in writing by the **Commissioner**.

ARTICLE 33. THE COMMISSIONER

33.1 The **Commissioner**, in addition to those matters elsewhere herein expressly made subject to his/her determination, direction or approval, shall have the power:

33.1.1 To review and make determinations on any and all questions in relation to this **Contract** and its performance; and

33.1.2 To modify or change this **Contract** so as to require the performance of **Extra Work** (subject, however, to the limitations specified in Article 25) or the omission of **Contract Work**; and

33.1.3 To suspend the whole or any part of the **Work** whenever in his/her judgment such suspension is required:

33.1.3(a) In the interest of the **City** generally; or

33.1.3(b) To coordinate the **Work** of the various contractors engaged on this **Project** pursuant to the provisions of Article 12; or

33.1.3(c) To expedite the completion of the entire **Project** even though the completion of this particular **Contract** may thereby be delayed.

ARTICLE 34. NO ESTOPPEL

34.1 Neither the **City** nor any **Agency**, official, agent or employee thereof, shall be bound, precluded or estopped by any determination, decision, approval, order, letter, payment or certificate made or given under or in connection with this **Contract** by the **City**, the **Commissioner**, the **Engineer**, the **Resident Engineer**, or any other official, agent or employee of the **City**, either before or after the final completion and acceptance of the **Work** and payment therefor:

34.1.1 From showing the true and correct classification, amount, quality or character of the **Work** actually done; or that any such determination, decision, order, letter, payment or certificate was untrue, incorrect or improperly made in any particular, or that the **Work**, or any part thereof, does not in fact conform to the requirements of this **Contract**; and

34.1.2 From demanding and recovering from the **Contractor** any overpayment made to it, or such damages as the **City** may sustain by reason of the **Contractor's** failure to perform each and every part of its **Contract**.

CHAPTER VIII: LABOR PROVISIONS

ARTICLE 35. EMPLOYEES

35.1 The **Contractor** and its **Subcontractors** shall not employ on the **Work**:

35.1.1 Anyone who is not competent, faithful and skilled in the **Work** for which he/she shall be employed; and whenever the **Commissioner** shall inform the **Contractor**, in writing, that any employee is, in his/her opinion, incompetent, unfaithful or disobedient, that employee shall be discharged from the **Work** forthwith, and shall not again be employed upon it; or

35.1.2 Any labor, materials or means whose employment, or utilization during the course of this **Contract**, may tend to or in any way cause or result in strikes, work stoppages, delays, suspension of **Work** or similar troubles by workers employed by the **Contractor** or its **Subcontractors**, or by any of the trades working in or about the buildings and premises where **Work** is being performed under this **Contract**, or by **Other Contractors** or their **Subcontractors** pursuant to other contracts, or on any other building or premises owned or operated by the **City**, its **Agencies**, departments, boards or authorities. Any violation by the **Contractor** of this requirement may, upon certification of the **Commissioner**, be considered as proper and sufficient cause for declaring the **Contractor** to be in default, and for the **City** to take action against it as set forth in Chapter X of this **Contract**, or such other article of this **Contract** as the Commissioner may deem proper; or

35.1.3 In accordance with Section 220.3-e of the Labor Law of the State of New York (hereinafter "Labor Law"), the **Contractor** and its **Subcontractors** shall not employ on the **Work** any apprentice, unless he/she is a registered individual, under a bona fide program registered with the New York State Department of Labor. The allowable ratio of apprentices to journey-level workers in any craft classification shall not be greater than the ratio permitted to the **Contractor** as to its work force on any job under the registered program. Any employee listed on a payroll at an apprentice wage rate, who is not registered as above, shall be paid the wage rate determined by the **Comptroller** of the **City** for the classification of **Work** actually performed. The **Contractor** or **Subcontractor** will be required to furnish written evidence of the registration of its program and apprentices as well as all the appropriate ratios and wage rates, for the area of the construction prior to using any apprentices on the **Contract Work**.

35.2 If the total cost of the **Work** under this **Contract** is at least two hundred fifty thousand ($250,000) dollars, all laborers, workers, and mechanics employed in the performance of the C**ontract** on the public work site, either by the **Contractor**, **Subcontractor** or other person doing or contracting to do the whole or a part of the **Work** contemplated by the **Contract**, shall be certified prior to performing any **Work** as having successfully completed a course in construction safety and health approved by the United States Department of Labor's Occupational Safety and Health Administration that is at least ten (10) hours in duration.

35.3 In accordance with Local Law Nos. 30-2012 and 33-2012, codified at sections 6-132 and 12-113 of the Administrative Code, respectively,

35.3.1 The **Contractor** shall not take an adverse personnel action with respect to an officer or employee in retaliation for such officer or employee making a report of information concerning conduct which such officer or employee knows or reasonably believes to involve corruption, criminal activity, conflict of interest, gross mismanagement or abuse of authority by any officer or employee relating to this **Contract** to (a) the Commissioner of the Department of Investigation, (b) a member of the New York City Council, the Public Advocate, or the **Comptroller**, or (c) the **CCPO**, **ACCO**, **Agency** head, or **Commissioner**.

35.3.2 If any of the **Contractor**'s officers or employees believes that he or she has been the subject of an adverse personnel action in violation of Article 35.3.1, he or she shall be entitled to bring a cause of action against the **Contractor** to recover all relief necessary to make him or her whole. Such relief may include but is not limited to: (a) an injunction to restrain continued retaliation, (b) reinstatement to the position such employee would have had but for the retaliation or to an equivalent position, (c) reinstatement of full fringe benefits and seniority rights, (d) payment of two times back pay, plus interest, and (e) compensation for any special damages sustained as a result of the retaliation, including litigation costs and reasonable attorney's fees.

35.3.3 The **Contractor** shall post a notice provided by the **City** in a prominent and accessible place on any site where work pursuant to the **Contract** is performed that contains information about:

35.3.3(a) how its employees can report to the New York City Department of Investigation allegations of fraud, false claims, criminality or corruption arising outof or in connection with the **Contract**; and

35.3.3(b) the rights and remedies afforded to its employees under Administrative Code sections 7-805 (the New York City False Claims Act) and 12-113 (the Whistleblower Protection Expansion Act) for lawful acts taken in connection withthe

reporting of allegations of fraud, false claims, criminality or corruption in connection with the **Contract**.

35.3.4 For the purposes of this Article 35.3, "adverse personnel action" includes dismissal, demotion, suspension, disciplinary action, negative performance evaluation, any action resulting in loss of staff, office space, equipment or other benefit, failure to appoint, failure to promote, or any transfer or assignment or failure to transfer or assign against the wishes of the affected officer or employee.

35.3.5 This Article 35.3 is applicable to all of the **Contractor**'s **Subcontractors** having subcontracts with a value in excess of $100,000; accordingly, the **Contractor** shall include this rider in all subcontracts with a value a value in excess of $100,000.

35.4 Article 35.3 is not applicable to this **Contract** if it is valued at $100,000 or less. Articles 35.3.1, 35.3.2, 35.3.4, and 35.3.5 are not applicable to this **Contract** if it was solicited pursuant to a finding of an emergency.

35.5 Paid Sick Leave Law.

35.5.1 Introduction and General Provisions.

35.5.1(a) The Earned Sick Time Act, also known as the Paid Sick Leave Law ("PSLL"), requires covered employees who annually perform more than 80 hours of work in New York City to be provided with paid sick time[2]. Contractors of the **City** or of other governmental entities may be required to provide sick time pursuant to the PSLL.

35.5.1(b) The PSLL became effective on April 1, 2014, and is codified at Title 20, Chapter 8, of the New York City Administrative Code. It is administered by the City's Department of Consumer Affairs ("DCA"); DCA's rules promulgated under the PSLL are codified at Chapter 7 of Title 6 of the Rules of the City of New York ("Rules").

35.5.1(c) The **Contractor** agrees to comply in all respects with the PSLL and the Rules, and as amended, if applicable, in the performance of this **Contract**. The **Contractor** further acknowledges that such compliance is a material term of this **Contract** and that failure to comply with the PSLL in performance of this **Contract** may result in its termination.

35.5.1(d) The **Contractor** must notify the **Agency Chief Contracting Officer** of the **Agency** with whom it is contracting in writing within ten (10) days of receipt of a complaint (whether oral or written) regarding the PSLL involving the performance of this **Contract**. Additionally, the **Contractor** must cooperate with DCA's education efforts and must comply with DCA's subpoenas and other document demands as set forth in the PSLL and Rules.

35.5.1(e) The PSLL is summarized below for the convenience of the **Contractor**. The **Contractor** is advised to review the PSLL and Rules in their entirety. On the

[2] Pursuant to the PSLL, if fewer than five employees work for the same employer, as determined pursuant to New York City Administrative Code § 20-912(g), such employer has the option of providing such employees uncompensated sick time.

website www.nyc.gov/PaidSickLeave there are links to the PSLL and the associated Rules as well as additional resources for employers, such as Frequently Asked Questions, timekeeping tools and model forms, and an event calendar of upcoming presentations and webinars at which the **Contractor** can get more information about how to comply with the PSLL. The **Contractor** acknowledges that it is responsible for compliance with the PSLL notwithstanding any inconsistent language contained herein.

35.5.2 Pursuant to the PSLL and the Rules: Applicability, Accrual, and Use.

35.5.2(a) An employee who works within the City of New York for more than eighty hours in any consecutive 12-month period designated by the employer as its "calendar year" pursuant to the PSLL ("Year") must be provided sick time. Employers must provide a minimum of one hour of sick time for every 30 hours worked by an employee and compensation for such sick time must be provided at the greater of the employee's regular hourly rate or the minimum wage. Employers are not required to provide more than 40 hours of sick time to an employee in any Year.

35.5.2(b) An employee has the right to determine how much sick time he or she will use, provided that employers may set a reasonable minimum increment for the use of sick time not to exceed four hours per **Day**. In addition, an employee may carry over up to 40 hours of unused sick time to the following Year, provided that no employer is required to allow the use of more than forty hours of sick time in a Year or carry over unused paid sick time if the employee is paid for such unused sick time and the employer provides the employee with at least the legally required amount of paid sick time for such employee for the immediately subsequent Year on the first **Day** of such Year.

35.5.2(c) An employee entitled to sick time pursuant to the PSLL may use sick time for any of the following:

i. such employee's mental illness, physical illness, injury, or health condition or the care of such illness, injury, or condition or such employee's need for medical diagnosis or preventive medical care;
ii. such employee's care of a family member (an employee's child, spouse, domestic partner, parent, sibling, grandchild or grandparent, or the child or parent of an employee's spouse or domestic partner) who has a mental illness, physical illness, injury or health condition or who has a need for medical diagnosis or preventive medical care;
iii. closure of such employee's place of business by order of a public official due to a public health emergency; or
iv. such employee's need to care for a child whose school or childcare providerhas been closed due to a public health emergency.

35.5.2(d) An employer must not require an employee, as a condition of taking sick time, to search for a replacement. However, an employer may require an employee to provide: reasonable notice of the need to use sick time; reasonable documentation that the use of sick time was needed for a reason above if for an absence of more than three consecutive work days; and/or written confirmation that an employee used sick time pursuant to the PSLL. However, an employer may not require documentation specifying the nature of a medical condition or otherwise require disclosure of the details of a medical condition as a condition of providing sick time and health information obtained solely due to an employee's use of sick time pursuant to the PSLL must be treated by the

employer as confidential.

35.5.2(e) If an employer chooses to impose any permissible discretionary requirement as a condition of using sick time, it must provide to all employees a written policy containing those requirements, using a delivery method that reasonably ensures that employees receive the policy. If such employer has not provided its written policy, it may not deny sick time to an employee because of non-compliance with such a policy.

35.5.2(f) Sick time to which an employee is entitled must be paid no later than the payday for the next regular payroll period beginning after the sick time was used.

35.5.3 Exemptions and Exceptions. Notwithstanding the above, the PSLL does not apply to any of the following:

35.5.3(a) an independent contractor who does not meet the definition of employee under section 190(2) of the New York State Labor Law;

35.5.3(b) an employee covered by a valid collective bargaining agreement in effect on April 1, 2014, until the termination of such agreement;

35.5.3(c) an employee in the construction or grocery industry covered by a valid collective bargaining agreement if the provisions of the PSLL are expressly waived in such collective bargaining agreement;

35.5.3(d) an employee covered by another valid collective bargaining agreement if such provisions are expressly waived in such agreement and such agreement provides a benefit comparable to that provided by the PSLL for such employee;

35.5.3(e) an audiologist, occupational therapist, physical therapist, or speech language pathologist who is licensed by the New York State Department of Education and who calls in for work assignments at will, determines his or her own schedule, has the ability to reject or accept any assignment referred to him or her, and is paid an average hourly wage that is at least four times the federal minimum wage;

35.5.3(f) an employee in a work study program under Section 2753 of Chapter 42 of the United States Code;

35.5.3(g) an employee whose work is compensated by a qualified scholarship program as that term is defined in the Internal Revenue Code, Section 117 of Chapter 20 of the United States Code; or

35.5.3(h) a participant in a Work Experience Program (WEP) under section 336-c of the New York State Social Services Law.

35.5.4 Retaliation Prohibited. An employer may not threaten or engage in retaliation against an employee for exercising or attempting in good faith to exercise any right provided by the PSLL. In addition, an employer may not interfere with any investigation, proceeding, or hearing pursuant to the PSLL.

35.5.5 Notice of Rights.

35.5.5(a) An employer must provide its employees with written notice of their rights pursuant to the PSLL. Such notice must be in English and the primary language spoken

by an employee, provided that DCA has made available a translation into such language. Downloadable notices are available on DCA's website at http://www.nyc.gov/html/dca/html/law/PaidSickLeave.shtml.

35.5.5(b) Any person or entity that willfully violates these notice requirements is subject to a civil penalty in an amount not to exceed fifty dollars for each employee who was not given appropriate notice.

35.5.6 Records. An employer must retain records documenting its compliance with the PSLL for a period of at least three years, and must allow DCA to access such records in furtherance of an investigation related to an alleged violation of the PSLL.

35.5.7 Enforcement and Penalties.

35.5.7(a) Upon receiving a complaint alleging a violation of the PSLL, DCA has the right to investigate such complaint and attempt to resolve it through mediation. Within 30 **Days** of written notification of a complaint by DCA, or sooner in certain circumstances, the employer must provide DCA with a written response and such other information as DCA may request. If DCA believes that a violation of the PSLL has occurred, it has the right to issue a notice of violation to the employer.

35.5.7(b) DCA has the power to grant an employee or former employee all appropriate relief as set forth in New York City Administrative Code § 20-924(d). Such relief may include, among other remedies, treble damages for the wages that should have been paid, damages for unlawful retaliation, and damages and reinstatement for unlawful discharge. In addition, DCA may impose on an employer found to have violated the PSLL civil penalties not to exceed $500 for a first violation, $750 for a second violation within two years of the first violation, and
$1,000 for each succeeding violation within two years of the previous violation.

35.5.8 More Generous Polices and Other Legal Requirements. Nothing in the PSLL is intended to discourage, prohibit, diminish, or impair the adoption or retention of a more generous sick time policy, or the obligation of an employer to comply with any contract,

collective bargaining agreement, employment benefit plan or other agreement providing more generous sick time. The PSLL provides minimum requirements pertaining to sick time and does not preempt, limit or otherwise affect the applicability of any other law, regulation, rule, requirement, policy or standard that provides for greater accrual or use by employees of sick leave or time, whether paid or unpaid, or that extends other protections to employees. The PSLL may not be construed as creating or imposing any requirement in conflict with any federal or state law, rule or regulation.

35.6 HireNYC: Hiring and Reporting Requirements. This Article 35.6 applies to construction contracts of $1,000,000 or more. The **Contractor** shall comply with the requirements of Articles 35.6.1-35.6.5 for all non-trades jobs (e.g., for an administrative position arising out of **Work** ant located in New York City). The **Contractor** shall reasonably cooperate with SBS and the **City** on specific outreach events, including "Hire-on-the-Spot" events, for the hiring of trades workers in connection with the **Work**. If provided elsewhere in this **Contract**, this **Contract** is subject to a project labor agreement.

35.6.1 Enrollment. The **Contractor** shall enroll with the HireNYC system, found at www.nyc.gov/sbs, within thirty (30) days after the registration of this **Contract** pursuant to Section 328 of the New York City Charter. The **Contractor** shall provide information about the business, designate a primary contact and say whether it intends to hire for any entry

to mid-level job opportunities arising from this **Contract** and located in New York City, and, if so, the approximate start date of the first hire.

35.6.2 Job Posting Requirements.

35.6.2(a) Once enrolled in HireNYC, the **Contractor** agrees to update the HireNYC portal with all entry to mid-level job opportunities arising from this **Contract** and located in New York City, if any, which shall be defined as jobs requiring no more than an associate degree, as provided by the New York State Department of Labor (see Column F of https://labor.ny.gov/stats/2012-2022- NYS- Employment-Prospects.xls). The information to be updated includes the types of entry and mid-level positions made available from the work arising from the **Contract** and located in New York City, the number of positions, the anticipated schedule of initiating the hiring process for these positions, and the contact information for the **Contractor's** representative charged with overseeing hiring. The **Contractor** must update the HireNYC portal with any hiring needs arising from the contract and located in New York City, and the requirements of the jobs to be filled, no less than three weeks prior to the intended first day of employment for each new position, except with the permission of SBS, not to be unreasonably withheld, and must also update the HireNYC portal as set forth below.

35.6.2(b) After enrollment through HireNYC and submission of relevant information, SBS will work with the **Contractor** to develop a recruitment plan which will outline the candidate screening process, and will provide clear instructions as to when, where, and how interviews will take place. HireNYC will screen applicants based on employer requirements and refer applicants whom it believes are qualified to the **Contractor** for interviews. The **Contractor** must interview referred applicants whom it believes are qualified.

35.6.2(c) After completing an interview of a candidate referred by HireNYC, the **Contractor** must provide feedback via the portal within twenty (20) business days to indicate which candidates were interviewed and hired, if any. In addition, the **Contractor** shall provide the start date of new hires, and additional information reasonably related to such hires, within twenty (20) business days after the start date. In the event the **Contractor** does not have any job openings covered by this Rider in any given year, the **Contractor** shall be required to provide an annual update to HireNYC to that effect. For this purpose, the reporting year shall run from the date of the registration of the **Contract** pursuant to Charter section 328 and each anniversary date.

35.6.2(d) These requirements do not limit the **Contractor's** ability to assess the qualifications of prospective workers, and to make final hiring and retention decisions. No provision of this Article 35.6 shall be interpreted so as to require the **Contractor** to employ any particular worker.

35.6.2(e) In addition, the provisions of this Article 35.6 shall not apply to positions that the **Contractor** intends to fill with employees employed pursuant to the job retention provision of Section 22-505 of the Administrative Code of the City of New York. The **Contractor** shall not be required to report such openings with HireNYC. However, the **Contractor** shall enroll with the HireNYC system pursuant to Article 35.6.1, above, and, if such positions subsequently become open, then the remaining provisions of this Article 35.6 will apply.

35.6.3 Breach and Liquidated Damages. If the **Contractor** fails to comply with the termsof the **ContrSact** and this Article 35.6 (l) by not enrolling its business with HireNYC; (2) by not informing HireNYC, as required, of open positions; or (3) by failing to interview a qualified candidate, the **Agency** may assess liquidated damages in the amount of two- thousand five hundred dollars ($2,500) per breach. For all other events of noncompliance with the terms of this Article 35.6, the **Agency** may assess liquidated damages in the amount of five hundred dollars ($500) per breach. Furthermore, in the event the **Contractor** breaches the requirements of this Article 35.6 during the term of the **Contract**, the **City** may hold the **Contractor** in default of this **Contract**.

35.6.4 Audit Compliance. In addition to the auditing requirements set forth in other partsof the **Contract**, the **Contractor** shall permit SBS and the **City** to inspect any and all records concerning or relating to job openings or the hiring of individuals for work arising from the **Contract** and located in New York City. The **Contractor** shall permit an inspection within seven (7) business days of the request.

35.6.5 Other Reporting Requirements. The **Contractor** shall report to the **City**, on amonthly basis, all information reasonably requested by the **City** that is necessary for the **City** to comply with any reporting requirements imposed by **Law**, including any requirement that the **City** maintain a publicly accessible database. In addition, the **Contractor** agrees to comply with all reporting requirements imposed by **Law**, or as otherwise requested by the **City**.

35.6.6 Federal Hiring Requirements. If this **Contract** is federally funded (as indicated elsewhere in this Contract), the **Contractor** shall comply with all federal hiring requirements as may be set forth in this **Contract**, including, as applicable: (a) Section 3 of the HUD Act of 1968, which requires, to the greatest extent feasible, economic opportunities for 30 percent of new hires be given to low- and very low-income persons, particularly persons who are recipients of HUD assistance for housing and Executive Order 11246, which prohibits discrimination in employment due to race, color, religion,sex or national origin, and requires the implementation of goals for minority and female participation for work involving any construction trade.

ARTICLE 36. NO DISCRIMINATION

36.1 The **Contractor** specifically agrees, as required by Labor Law Section 220-e, as amended, that:

36.1.1 In the hiring of employees for the performance of **Work** under this **Contract** or any subcontract hereunder, neither the **Contractor**, **Subcontractor**, nor any person acting on behalf of such **Contractor** or **Subcontractor**, shall by reason of race, creed, color or national origin discriminate against any citizen of the State of New York who is qualifiedand available to perform the **Work** to which the employment relates;

36.1.2 Neither the **Contractor**, **Subcontractor**, nor any person on its behalf shall, in any manner, discriminate against or intimidate any employee hired for the performance of **Work** under this **Contract** on account of race, creed, color or national origin;

36.1.3 There may be deducted from the amount payable to the **Contractor** by the **City** under this **Contract** a penalty of fifty ($50.00) dollars for each person for each **Day** during which such person was discriminated against or intimidated in violation of the provisions of this

Contract; and

36.1.4 This **Contract** may be cancelled or terminated by the **City** and all moneys due or to become due hereunder may be forfeited, for a second or any subsequent violation of the terms or conditions of this Article 36.

36.1.5 This Article 36 covers all construction, alteration and repair of any public building or public work occurring in the State of New York and the manufacture, sale, and distribution of materials, equipment, and supplies to the extent that such operations are performed within the State of New York pursuant to this **Contract**.

36.2 The **Contractor** specifically agrees, as required by Section 6-108 of the Administrative Code,as amended, that:

36.2.1 It shall be unlawful for any person engaged in the construction, alteration or repairof buildings or engaged in the construction or repair of streets or highways pursuant to a **Contract** with the **City** or engaged in the manufacture, sale or distribution of materials, equipment or supplies pursuant to a **Contract** with the **City** to refuse to employ or to refuse to continue in any employment any person on account of the race, color or creed of such person.

36.2.2 It shall be unlawful for any person or any servant, agent or employee of any person, described in Article 36.1.2, to ask, indicate or transmit, orally or in writing, directly or indirectly, the race, color or creed or religious affiliation of any person employed or seeking employment from such person, firm or corporation.

36.2.3 Breach of the foregoing provisions shall be deemed a violation of a material provision of this **Contract**.

36.2.4 Any person, or the employee, manager or owner of or officer of such firm or corporation who shall violate any of the provisions of this Article 36.2 shall, upon conviction thereof, be punished by a fine of not more than one hundred ($100.00) dollars or by imprisonment for not more than thirty (30) **Days**, or both.

36.3 This **Contract** is subject to the requirements of Executive Order No. 50 (1980) ("E.O. 50"), as revised, and the rules and regulations promulgated thereunder. No contract will be awarded unless and until these requirements have been complied with in their entirety. By signing this **Contract**, the **Contractor** agrees that it:

36.3.1 Will not engage in any unlawful discrimination against any employee or applicantfor employment because of race, creed, color, national origin, sex, age, disability, marital status or sexual orientation with respect to all employment decisions including, but not limited to, recruitment, hiring, upgrading, demotion, downgrading, transfer, training, ratesof pay or other forms of compensation, layoff, termination, and all other terms and conditions of employment; and

36.3.2 Will not engage in any unlawful discrimination in the selection of **Subcontractors** on the basis of the owner's race, color, creed, national origin, sex, age, disability, marital status or sexual orientation; and

36.3.3 Will state in all solicitations or advertisements for employees placed by or on behalf of the **Contractor** that all qualified applicants will receive consideration for employment without unlawful discrimination based on race, creed, color, national origin, sex, age, citizens status,

disability, marital status, sexual orientation, or that it is an equal employment opportunity employer; and

36.3.4 Will send to each labor organization or representative of workers with which it has a collective bargaining agreement or other contract or memorandum of understanding, written notification of its equal employment opportunity commitments under E.O. 50 and the rules and regulations promulgated thereunder; and

36.3.5 Will furnish, before the award of the **Contract**, all information and reports, including an employment report, that are required by E.O. 50, the rules and regulations promulgated thereunder, and orders of the **City** Department of Business Services, Division of Labor Services (**DLS**) and will permit access to its books, records, and accounts by the **DLS** for the purposes of investigation to ascertain compliance with such rules, regulations, and orders.

36.4 The **Contractor** understands that in the event of its noncompliance with the nondiscrimination clauses of this **Contract** or with any of such rules, regulations, or orders, such noncompliance shall constitute a material breach of this **Contract** and noncompliance with E.O. 50 and the rules and regulations promulgated thereunder. After a hearing held pursuant to the rules of the **DLS**, the Director of the **DLS** may direct the **Commissioner** to impose any or all of the following sanctions:

36.4.1 Disapproval of the **Contractor**; and/or

36.4.2 Suspension or termination of the **Contract**; and/or

36.4.3 Declaring the **Contractor** in default; and/or

36.4.4 In lieu of any of the foregoing sanctions, the Director of the **DLS** may impose an employment program.

In addition to any actions taken under this **Contract**, failure to comply with E.O. 50 and the rules and regulations promulgated thereunder, in one or more instances, may result in a **City Agency** declaring the **Contractor** to be non-responsible in future procurements. The **Contractor** further agrees that it will refrain from entering into any **Contract** or **Contract** modification subject to E.O. 50 and the rules and regulations promulgated thereunder with a **Subcontractor** who is not in compliance with the requirements of E.O. 50 and the rules and regulations promulgated thereunder.

36.5 The **Contractor** specifically agrees, as required by Section 6-123 of the AdministrativeCode, that:

36.5.1 The **Contractor** will not engage in any unlawful discriminatory practice in violation of Title 8 of the Administrative Code; and

36.5.2 Any failure to comply with this Article 36.5 may subject the **Contractor** to the remedies set forth in Section 6-123 of the Administrative Code, including, where appropriate, sanctions such as withholding of payment, imposition of an employment program, finding the **Contractor** to be in default, cancellation of the **Contract**, or any other sanction or remedy provided by **Law** or **Contract**.

ARTICLE 37. LABOR LAW REQUIREMENTS

37.1 The **Contractor** shall strictly comply with all applicable provisions of the Labor Law, as

amended. Such compliance is a material term of this **Contract**.

37.2 The **Contractor** specifically agrees, as required by Labor Law Sections 220 and 220-d, as amended, that:

37.2.1 Hours of **Work**: No laborer, worker, or mechanic in the employ of the **Contractor**, **Subcontractor** or other person doing or contracting to do the whole or a part of the **Work** contemplated by this **Contract** shall be permitted or required to work more than eight (8) hours in any one (1) **Day**, or more than five (5) **Days** in any one (1) week, except as provided in the Labor Law and in cases of extraordinary emergency including fire, flood, or danger to life or property, or in the case of national emergency when so proclaimed by the President of the United States of America.

37.2.2 In situations in which there are not sufficient laborers, workers, and mechanics who may be employed to carry on expeditiously the **Work** contemplated by this **Contract** as a result of such restrictions upon the number of hours and **Days** of labor, and the immediate commencement or prosecution or completion without undue delay of the **Work** is necessary for the preservation of the **Site** and/or for the protection of the life and limb of the persons using the same, such laborers, workers, and mechanics shall be permitted or required to work more than eight (8) hours in any one (1) **Day**; or five (5) **Days** in any one (1) week; provided, however, that upon application of any **Contractor**, the **Commissioner** shall have first certified to the Commissioner of Labor of the State of New York (hereinafter "Commissioner of Labor") that such public **Work** is of an important nature and that a delay in carrying it to completion would result in serious disadvantage to the public; and provided, further, that such Commissioner of Labor shall have determined that such an emergency does in fact exist as provided in Labor Law Section 220.2.

37.2.3 Failure of the **Commissioner** to make such a certification to the Commissioner of Labor shall not entitle the **Contractor** to damages for delay or for any cause whatsoever.

37.2.4 Prevailing Rate of Wages: The wages to be paid for a legal day's **Work** to laborers, workers, or mechanics employed upon the **Work** contemplated by this **Contract** or upon any materials to be used thereon shall not be less than the "prevailing rate of wage" as defined in Labor Law Section 220, and as fixed by the **Comptroller** in the attached Schedule of Wage Rates and in updated schedules thereof. The prevailing wage rates and supplemental benefits to be paid are those in effect at the time the **Work** is being performed.

37.2.5 Requests for interpretation or correction in the Information for Bidders includes all requests for clarification of the classification of trades to be employed in the performance of the **Work** under this **Contract**. In the event that a trade not listed in the **Contract** is in fact employed during the performance of this **Contract**, the **Contractor** shall be required to obtain from the **Agency** the prevailing wage rates and supplementary benefits for the trades used and to complete the performance of this **Contract** at the price at which the **Contract** was awarded.

37.2.6 Minimum Wages: Except for employees whose wage is required to be fixed pursuant to Labor Law Section 220, all persons employed by the **Contractor** and any **Subcontractor** in the manufacture or furnishing of the supplies, materials, or equipment, or the furnishing of work, labor, or services, used in the performance of this **Contract**, shall be paid, without subsequent deduction or rebate unless expressly authorized by **Law**, not less than the sum mandated by **Law**.

37.3 Working Conditions: No part of the **Work**, labor or services shall be performed or rendered by

the **Contractor** in any plants, factories, buildings or surroundings or under working conditions which are unsanitary or hazardous or dangerous to the health and safety of employees engaged in the performance of this **Contract**. Compliance with the safety, sanitary, and factory inspection **Laws** of the state in which the **Work** is to be performed shall be prima facie evidence of compliance with this Article 37.3.

37.4 Prevailing Wage Enforcement: The **Contractor** agrees to pay for all costs incurred by the **City** in enforcing prevailing wage requirements, including the cost of any investigation conducted by or on behalf of the **Agency** or the **Comptroller,** where the **City** discovers a failure to comply with any of the requirements of this Article 37 by the **Contractor** or its **Subcontractor(s)**. The **Contractor** also agrees that, should it fail or refuse to pay for any such investigation, the **Agency** is hereby authorized to deduct from a **Contractor's** account an amount equal to the cost of such investigation.

37.4.1 The Labor Law Section 220 and Section 220-d, as amended, provide that this **Contract** shall be forfeited and no sum paid for any **Work** done hereunder on a second conviction for willfully paying less than:

37.4.1(a) The stipulated prevailing wage scale as provided in Labor Law section 220, as amended, or

37.4.1(b) The stipulated minimum hourly wage scale as provided in Labor Law section 220-d, as amended.

37.4.2 For any breach or violation of either working conditions (Article 37.3) or minimum wages (Article 37.2.6) provisions, the party responsible therefor shall be liable to the **City** for liquidated damages, which may be withheld from any amounts due on any contracts with the **City** of such party responsible, or may be recovered in actions brought by the **City** Corporation Counsel in the name of the **City**, in addition to damages for any other breach of this **Contract**, for a sum equal to the amount of any underpayment of wages due to any employee engaged in the performance of this **Contract**. In addition, the **Commissioner** shall have the right to cancel contracts and enter into other contracts for the completion of the original contract, with or without public letting, and the original **Contractor** shall be liable for any additional cost. All sums withheld or recovered as deductions, rebates, refunds, or underpayment of wages hereunder, shall be held in a special deposit account and shall be paid without interest, on order of the **Comptroller**, directly to the employees who have been paid less than minimum rates of pay as set forth herein and on whose account such sums were withheld or recovered, provided that no claims by employees for such payments shall be entertained unless made within two (2) years from the date of actual notice to the **Contractor** of the withholding or recovery of such sums by the **City**.

37.4.3 A determination by the **Comptroller** that a **Contractor** and/or its **Subcontractor** willfully violated Labor Law Section 220 will be forwarded to the **City's** five District Attorneys for review.

37.4.4 The **Contractor's** or **Subcontractor's** noncompliance with this Article 37.4 and Labor Law Section 220 may result in an unsatisfactory performance evaluation and the **Comptroller** may also find and determine that the **Contractor** or **Subcontractor** willfully violated the New York Labor **Law**.

37.4.4(a) An unsatisfactory performance evaluation for noncompliance with this Article 37.4 may result in a determination that the **Contractor** is a non-responsible bidder on subsequent procurements with the **City** and thus a rejection of a future award

of a contract with the **City**, as well as any other sanctions provided for by **Law**.

37.4.4(b) Labor Law Section 220-b, as amended, provides that when two (2) final determinations have been rendered against a **Contractor** or **Subcontractor** within any consecutive six (6) year period determining that such **Contractor** or **Subcontractor** has willfully failed to pay the prevailing rate of wages or to provide supplements in accordance with the Labor Law and this Article 37.4, whether such failures were concurrent or consecutive and whether or not such final determinations concerning separate public works projects are rendered simultaneously, such **Contractor** or **Subcontractor** shall be ineligible to submit a bid on or be awarded any public works contract with the **City** for a period of five (5) years from the second final determination. If the final determination involves the falsification of payroll records or the kickback of wages or supplements, the **Contractor** or **Subcontractor** shall be ineligible to submit a bid on or be awarded any public works contract with the **City** for a period of five (5) years from the first final determination.

37.4.4(c) Labor Law Section 220, as amended, provides that the **Contractor** or **Subcontractor** found to have violated this Article 37.4 may be directed to make payment of wages or supplements including interest found to be due, and the **Contractor** or **Subcontractor** may be directed to make payment of a further sum as a civil penalty in an amount not exceeding twenty-five (25%) percent of the total amount found to be due.

37.5 The **Contractor** and its **Subcontractors** shall within ten (10) **Days** after mailing of a Notice of Award or written order, post in prominent and conspicuous places in each and every plant, factory, building, and structure where employees of the **Contractor** and its **Subcontractors** engaged in the performance of this **Contract** are employed, notices furnished by the **City**, in relation to prevailing wages and supplements, minimum wages, and other stipulations contained in Sections 220 and 220-h of the Labor Law, and the **Contractor** and its **Subcontractors** shall continue to keep such notices posted in such prominent and conspicuous places until **Final Acceptance** of the supplies, materials, equipment, or **Work**, labor, or services required to be furnished or rendered under this **Contract**.

37.6 The **Contractor** shall strictly comply with all of the provisions of Articles 37.6.1 through 37.6.5, and provide for all workers, laborers or mechanics in its employ, the following:

37.6.1 Notices Posted At **Site**: Post, in a location designated by the **City**, schedules of prevailing wages and supplements for this **Project**, a copy of all re-determinations of such schedules for the **Project**, the Workers' Compensation **Law** Section 51 notice, all other notices required by **Law** to be posted at the **Site**, the **City** notice that this **Project** is a public works project on which each worker is entitled to receive the prevailing wages and supplements for the occupation at which he or she is working, and all other notices which the **City** directs the **Contractor** to post. The **Contractor** shall provide a surface for such notices which is satisfactory to the **City**. The **Contractor** shall maintain and keep current such notices in a legible manner and shall replace any notice or schedule which is damaged, defaced, illegible or removed for any reason. The **Contractor** shall post such notices before commencing any **Work** on the **Site** and shall maintain such notices until all **Work** on the **Site** is complete; and

37.6.2 Daily **Site** Sign-in Sheets: Maintain daily **Site** sign-in sheets, and require that **Subcontractors** maintain daily **Site** sign-in sheets for its employees, which include blank spaces for an employee's name to be both printed and signed, job title, date started and Social Security number, the time the employee began work and the time the employee left

work, until **Final Acceptance** of the supplies, materials, equipment, or **Work**, labor, or services to be furnished or rendered under this **Contract** unless exception is granted by the **Comptroller** upon application by the **Agency**. In the alternative, subject to the approval of the **CCPO**, the **Contractor** and **Subcontractor** may maintain an electronic or biometric sign-in system, which provides the information required by this Article 37.6.2; and

37.6.3 Individual Employee Information Notices: Distribute a notice to each worker, laborer or mechanic employed under this **Contract**, in a form provided by the **Agency**, that this **Project** is a public works project on which each worker, laborer or mechanic is entitled to receive the prevailing rate of wages and supplements for the occupation at which he orshe is working. If the total cost of the **Work** under this **Contract** is at least two hundred fifty thousand ($250,000) dollars, such notice shall also include a statement that each worker, laborer or mechanic must be certified prior to performing any **Work** as having successfully completed a course in construction safety and health approved by the United States Department of Labor's Occupational Safety and Health Administration that is at least ten (10) hours in duration. Such notice shall be distributed to each worker before he or she starts performing any **Work** of this **Contract** and with the first paycheck after July first of each year. "Worker, laborer or mechanic" includes employees of the **Contractor** and all **Subcontractors** and all employees of suppliers entering the **Site**. At the time of distribution, the **Contractor** shall have each worker, laborer or mechanic sign a statement, in a form provided by the **Agency**, certifying that the worker has received the notice required by this Article 37.6.3, which signed statement shall be maintained with the payroll records required by this **Contract**; and

37.6.3(a) The **Contractor** and each **Subcontractor** shall notify each worker, laborer or mechanic employed under this **Contract** in writing of the prevailing rate of wages for their particular job classification. Such notification shall be given to every worker, laborer, and mechanic on their first pay stub and with every pay stub thereafter; and

37.6.4 **Site** Laminated Identification Badges: The **Contractor** shall provide laminated identification badges which include a photograph of the worker's, laborer's or mechanic's face and indicate the worker's, laborer's or mechanic's name, trade, employer's name, and employment starting date (month/day/year). Further, the **Contractor** shall require as acondition of employment on the **Site**, that each and every worker, laborer or mechanic wear the laminated identification badge at all times and that it may be seen by any representative of the **City**. The **Commissioner** may grant a written waiver from the requirement that the laminated identification badge include a photograph if the **Contractor** demonstrates that the identity of an individual wearing a laminated identification badge can be easily verified by another method; and

37.6.5 Language Other Than English Used On **Site**: Provide the **ACCO** notice when three (3) or more employees (worker and/or laborer and/or mechanic) on the **Site**, at any time, speak a language other than English. The **ACCO** will then provide the **Contractor** the notices described in Article 37.6.1 in that language or languages as may be required. The **Contractor** is responsible for all distributions under this Article 37; and

37.6.6 Provision of Records: The **Contractor** and **Subcontractor(s)** shall produce within five (5) **Days** on the **Site** of the **Work** and upon a written order of the **Engineer**, the **Commissioner**, the **ACCO**, the **Agency EAO**, or the **Comptroller,** such records as are required to be kept by this Article 37.6; and

37.6.7 The **Contractor** and **Subcontractor(s)** shall pay employees by check or direct deposit. If this **Contract** is for an amount greater than one million ($1,000,000) dollars, checks issued by the **Contractor** to covered employees shall be generated by a payroll service or automated payroll system (an in-house system may be used if approved by the **Agency**). For any subcontract for an amount greater than seven hundred fifty thousand ($750,000) dollars, checks issued by a **Subcontractor** to covered employees shall be generated by a payroll service or automated payroll system (an in-house system may be usedif approved by the **Agency**); and

37.6.8 The failure of the **Contractor** or **Subcontractor(s)** to comply with the provisions of Articles 37.6.1 through 37.6.7 may result in the **Commissioner** declaring the **Contractor** in default and/or the withholding of payments otherwise due under the **Contract**.

37.7 The **Contractor** and its **Subcontractors** shall keep such employment and payroll records as are required by Section 220 of the Labor Law. The failure of the **Contractor** or **Subcontractor(s)** to comply with the provisions of this Article 37.7 may result in the **Commissioner** declaring the **Contractor** in default and/or the withholding of payments otherwise due under the **Contract.**

37.8 At the time the **Contractor** makes application for each partial payment and for final payment, the **Contractor** shall submit to the **Commissioner** a written payroll certification, in the form provided by this **Contract**, of compliance with the prevailing wage, minimum wage, and other provisions and stipulations required by Labor Law Section 220 and of compliance with the training requirements of Labor Law Section 220-h set forth in Article 35.2. This certification of compliance shall be a condition precedent to payment and no payment shall be made to the **Contractor** unless and until each such certification shall have been submitted to and received by the **Commissioner**.

37.9 This **Contract** is executed by the **Contractor** with the express warranty and representation that the **Contractor** is not disqualified under the provisions of Section 220 of the Labor Law from the award of the **Contract**.

37.10 Any breach or violation of any of the foregoing shall be deemed a breach or violation of a material provision of this **Contract**, and grounds for cancellation thereof by the **City**.

ARTICLE 38. PAYROLL REPORTS

38.1 The **Contractor** and its **Subcontractor(s)** shall maintain on the **Site** during the performanceof the **Work** the original payrolls or transcripts thereof which the **Contractor** and its **Subcontractor(s)** are required to maintain and shall submit such original payrolls or transcripts, subscribed and affirmed by it as true, within thirty (30) **Days** after issuance of its first payroll, and every thirty (30) **Days** thereafter, pursuant to Labor Law Section 220(3-a)(a)(iii). The **Contractor** and **Subcontractor(s)** shall submit such original payrolls or transcripts along with each and every payment requisition. If payment requisitions are not submitted at least once a month, the **Contractor** and its **Subcontractor(s)** shall submit original payrolls and transcripts both along with its payment requisitions and independently of its payment requisitions.

38.2 The **Contractor** shall maintain payrolls or transcripts thereof for six (6) years from the date of completion of the **Work** on this **Contract**. If such payrolls and transcripts are maintained outside of New York City after the completion of the **Work** and their production is required pursuant to this Article 38, the **Contractor** shall produce such records in New York City upon request by the City.

38.3 The **Contractor** and **Subcontractor(s)** shall comply with any written order, direction, or request made by the **Engineer**, the **Commissioner**, the **ACCO**, the **Agency EAO**, the **Agency Labor Law**

Investigator(s), or the **Comptroller**, to provide to the requesting party any of the following information and/or records within five (5) **Days** of such written order, direction, or request:

38.3.1 Such original payrolls or transcripts thereof subscribed and affirmed by it as true and the statements signed by each worker pursuant to this Chapter VIII; and/or

38.3.2 Attendance sheets for each **Day** on which any employee of the **Contractor** and/or any of the **Subcontractor(s)** performed **Work** on the **Site**, which attendance sheet shall be in a form acceptable to the **Agency** and shall provide information acceptable to the **Agency** to identify each such employee; and/or

38.3.3 Any other information to satisfy the **Engineer**, the **Commissioner**, the **ACCO**, the **Agency EAO**, the **Agency Labor Law Investigator(s)** or the **Comptroller**, that this Chapter VIII and the Labor Law, as to the hours of employment and prevailing rates of wages and/or supplemental benefits, are being observed.

38.4 The failure of the **Contractor** or **Subcontractor(s)** to comply with the provisions of Articles 38.1 and/or 38.2 may result in the **Commissioner** declaring the **Contractor** in default and/or the withholding of payments otherwise due under the **Contract**.

ARTICLE 39. DUST HAZARDS

39.1 Should a harmful dust hazard be created in performing the **Work** of this **Contract**, for the elimination of which appliances or methods have been approved by the Board of Standards and Appeals of the City of New York, such appliances and methods shall be installed, maintained, and effectively operated during the continuance of such harmful dust hazard. Failure to comply with this provision after notice shall make this **Contract** voidable at the sole discretion of the **City**.

CHAPTER IX: PARTIAL AND FINAL PAYMENTS

ARTICLE 40. CONTRACT PRICE

40.1 The **City** shall pay, and the **Contractor** agrees to accept, in full consideration for the **Contractor's** performance of the **Work** subject to the terms and conditions hereof, the lump sum price or unit prices for which this **Contract** was awarded, plus the amount required to be paid for any **Extra Work** ordered by the **Commissioner** under Article 25, less credit for any **Work** omitted pursuant to Article 29.

ARTICLE 41. BID BREAKDOWN ON LUMP SUM

41.1 Within fifteen (15) **Days** after the commencement date specified in the **Notice to Proceed** or **Order to Work**, unless otherwise directed by the **Resident Engineer**, the **Contractor** shall submit to the **Resident Engineer** a breakdown of its bid price, or of lump sums bid for items of the **Contract**, showing the various operations to be performed under the **Contract**, as directed in the progress schedule required under Article 9, and the value of each of such operations, the total of such items to equal the lump sum price bid. Said breakdown must be approved in writing by the **Resident Engineer**.

41.2 No partial payment will be approved until the **Contractor** submits a bid breakdown that is acceptable to the **Resident Engineer**.

41.3 The **Contractor** shall also submit such other information relating to the bid breakdown as directed by the **Resident Engineer**. Thereafter, the breakdown may be used only for checking the **Contractor's** applications for partial payments hereunder, but shall not be binding upon the **City**, the **Commissioner**, or the **Engineer** for any purpose whatsoever.

ARTICLE 42. PARTIAL PAYMENTS

42.1 From time to time as the **Work** progresses satisfactorily, but not more often than once each calendar month (except where the **Commissioner** approves in writing the submission of invoices on a more frequent basis and for invoices relating to **Work** performed pursuant to a change order), the **Contractor** may submit to the **Engineer** a requisition for a partial payment in the prescribed form, which shall contain an estimate of the quantity and the fair value of the **Work** done during the payment period.

42.2 Partial payments may be made for materials, fixtures, and equipment in advance of their actual incorporation in the **Work**, as the **Commissioner** may approve, and upon the terms and conditions set forth in the General Conditions.

42.3 The **Contractor** shall also submit to the **Commissioner** in connection with every application for partial payment a verified statement in the form prescribed by the **Comptroller** setting forth the information required under Labor Law Section 220-a.

42.4 Within thirty (30) **Days** after receipt of a satisfactory payment application, and within sixty (60) **Days** after receipt of a satisfactory payment application in relation to **Work** performed pursuant to a change order, the **Engineer** will prepare and certify, and the **Commissioner** will approve, a voucher for a partial payment in the amount of such approved estimate, less any and all deductions authorized to be made by the **Commissioner** under the terms of this **Contract** or by **Law**.

ARTICLE 43. PROMPT PAYMENT

43.1 The Prompt Payment provisions of the **PPB** Rules in effect at the time of the bid will be applicable to payments made under this **Contract**. The provisions require the payment to the **Contractor** of interest on payments made after the required payment date, except as set forth in the **PPB** Rules.

43.2 The **Contractor** shall submit a proper invoice to receive payment, except where the **Contract** provides that the **Contractor** will be paid at predetermined intervals without having to submit an invoice for each scheduled payment.

43.3 Determination of interest due will be made in accordance with the **PPB** Rules.

43.4 If the **Contractor** is paid interest, the proportionate share(s) of that interest shall be forwarded by the **Contractor** to its **Subcontractor(s)**.

43.5 The **Contractor** shall pay each **Subcontractor** or **Materialman** not later than seven (7) **Days** after receipt of payment out of amounts paid to the **Contractor** by the **City** for **Work** performed by the **Subcontractor** or **Materialman** under this **Contract**.

43.5.1 If **Contractor** fails to make any payment to any **Subcontractor** or **Materialman** within seven (7) **Days** after receipt of payment by the **City** pursuant to this Article 43.5,

then the **Contractor** shall pay interest on amounts due to such **Subcontractor** or **Materialman** at the rate of interest in effect on the date such payment is made by the **Contractor** computed in accordance with Section 756-b (1)(b) of the New York General Business Law. Accrual of interest shall commence on the **Day** immediately following the expiration of the seventh **Day** following receipt of payment by the **Contractor** from the **City** and shall end on the date on which payment is made.

43.6 The **Contractor** shall include in each of its subcontracts a provision requiring each **Subcontractor** to make payment to each of its **Subcontractors** or **Materialmen** for **Work** performed under this **Contract** in the same manner and within the same time period set forth above.

ARTICLE 44. SUBSTANTIAL COMPLETION PAYMENT

44.1 The **Contractor** shall submit with the **Substantial Completion** requisition:

44.1.1 A final verified statement of any pending Article 27 disputes in accordance with the **PPB** Rules and this **Contract** and any and all alleged claims against the **City**, in any way connected with or arising out of this **Contract** (including those as to which details may have been furnished pursuant to Articles 11, 27, 28, and 30) setting forth with respect to each such claim the total amount thereof, the various items of labor and materials included therein, and the alleged value of each item; and if the alleged claim be one for delay, the alleged cause of each such delay, the period or periods of time, giving the dates when the **Contractor** claims the performance of the **Work** or a particular part thereof was delayed,and an itemized statement and breakdown of the amount claimed for each such delay.

44.1.1(a) With respect to each such claim, the **Commissioner**, the **Comptroller** and, in the event of litigation, the **City** Corporation Counsel shall have the same right to inspect, and to make extracts or copies of, the **Contractor's** books, vouchers, records, etc., as is referred to in Articles 11, 27, 28, and 30. Nothing contained in this Article 44.1.1(a) is intended to or shall relieve the **Contractor** from the obligation of complying strictly with Articles 11, 27, 28, and 30. The **Contractor** is warned that unless such claims are completely set forth as herein required, the **Contractor** upon acceptance of the **Substantial Completion** payment pursuant to this Article 44, will have waived any such claims.

44.1.2 A **Final Approved Punch List**.

44.1.3 Where required, a request for an extension of time to achieve **Substantial Completion** or final extension of time.

44.2 The **Commissioner** shall issue a voucher calling for payment of any part or all of the balance due for **Work** performed under the **Contract**, including monies retained under Article 21, less any and all deductions authorized to be made by the **Commissioner**, under this **Contract** or by **Law**, and less twice the amount the **Commissioner** considers necessary to ensure the completion of the balance of the **Work** by the **Contractor**. Such a payment shall be considered a partial and not a final payment. No **Substantial Completion** payment shall be made under this Article 44 where the **Contractor** failed to complete the **Work** within the time fixed for such completion in the Schedule A of the General Conditions, or within the time to which completion may have been extended, until an extension or extensions of time for the completion of **Work** have been acted upon pursuant to Article 13.

44.3 No further partial payments shall be made to the **Contractor** after **Substantial Completion**, except the **Substantial Completion** payment and payment pursuant to any **Contractor's** requisition that were properly filed with the **Commissioner** prior to the date of **Substantial Completion**; however, the **Commissioner** may grant a waiver for further partial payments after the date of **Substantial Completion** to permit payments for change order **Work** and/or release of retainage and deposits pursuant to Articles 21 and 24. Such waiver shall be in writing.

44.4 The **Contractor** acknowledges that nothing contained in this Article 44 is intended to or shall in any way diminish the force and effect of Article 13.

ARTICLE 45. FINAL PAYMENT

45.1 After completion and **Final Acceptance** of the **Work**, the **Contractor** shall submit all required certificates and documents, together with a requisition for the balance claimed to be due under the **Contract**, less the amount authorized to be retained for maintenance under Article 24. Such submission shall be within 90 days of the date of the **Commissioner's** written determination of **Final Acceptance**, or within such additional time as may be granted by the **Commissioner** in writing. If the **Contractor** fails to submit all required certificates and documents within the time allowed, no payment of the balance claimed shall be made to the **Contractor** and the **Contractor** shall be deemed to have forfeited its right to payment of any balance claimed. A verified statement similar to that required in connection with applications for partial payments shall also be submitted to the **Commissioner**.

45.2 Amended Verified Statement of Claims: The **Contractor** shall also submit with the final requisition any amendments to the final verified statement of any pending dispute resolution procedures in accordance with the **PPB** Rules and this **Contract** and any and all alleged claims against the **City**, in any way connected with or arising out of this **Contract** (including those as to which details may have been furnished pursuant to Articles 11, 27, 28, and 30) that have occurred subsequent to **Substantial Completion**, setting forth with respect to each such claim the total amount thereof, the various items of labor and materials included therein, and the alleged value of each such item; and if the alleged claim be one for delay, the alleged cause of each such delay, the period or periods of time, giving the dates when the **Contractor** claims the performance of the **Work** or a particular part thereof was delayed, and an itemized statement and breakdown of the amount claimed for each such delay. With reference to each such claim, the **Commissioner**, the **Comptroller** and, in the event of litigation, the **City** Corporation Counsel shall have the same right to inspect, and to make extracts or copies of, the **Contractor's** books, vouchers, records, etc., as is referred to in Articles 11, 27, 28, and 30. Nothing contained in this Article 45.2, is intended to or shall relieve the **Contractor** from the obligation of complying strictly with Articles 11, 27, 28, and 30. The **Contractor** is warned that unless such claims are completely set forth as herein required, the **Contractor**, upon acceptance of the Final Payment pursuant to Article 46, will have waived any such claims.

45.3 Preparation of Final Voucher: Upon determining the balance due hereunder other than on account of claims, the **Engineer** will prepare and certify, for the Commissioner's approval, a voucher for final payment in that amount less any and all deductions authorized to be made by the **Commissioner** under this **Contract** or by **Law**. In the case of a lump sum **Contract**, the **Commissioner** shall certify the voucher for final payment within thirty (30) **Days** from the date of completion and acceptance of the **Work**, provided all requests for extensions of time have been acted upon.

45.3.1 All prior certificates and vouchers upon which partial payments were made, being merely estimates made to enable the **Contractor** to prosecute the **Work** more advantageously, shall be subject to correction in the final voucher, and the certification of the **Engineer**

thereon and the approval of the **Commissioner** thereof, shall be conditions precedent to the right of the **Contractor** to receive any money hereunder. Such final voucher shall be binding and conclusive upon the **Contractor**.

45.3.2 Payment pursuant to such final voucher, less any deductions authorized to be made by the **Commissioner** under this **Contract** or by **Law**, shall constitute the final payment, and shall be made by the **Comptroller** within thirty (30) **Days** after the filing of such voucher in his/her office.

45.4 The **Contractor** acknowledges that nothing contained in this Article 45 is intended to or shall in any way diminish the force and effect of Article 13.

ARTICLE 46. ACCEPTANCE OF FINAL PAYMENT

46.1 The acceptance by the **Contractor**, or by anyone claiming by or through it, of the final payment, whether such payment be made pursuant to any judgment of any court, or otherwise, shall constitute and operate as a release of the **City** from any and all claims of and liability to the **Contractor** for anything heretofore done or furnished for the **Contractor** relating to or arising out of this **Contract** and the **Work** done hereunder, and for any prior act, neglect or default on the part of the **City** or any of its officials, agents or employees, excepting only a claim against the **City** for the amounts deducted or retained in accordance with the terms and provisions of this **Contract** or by **Law**, and excepting any claims, not otherwise waived, or any pending dispute resolution procedures which are contained in the verified statement filed with the **Contractor's** substantial and final requisitions pursuant to Articles 44and 45.

46.2 The **Contractor** is warned that the execution by it of a release, in connection with the acceptance of the final payment, containing language purporting to reserve claims other than those herein specifically excepted from the operation of this Article 46, or those for amounts deducted by the **Commissioner** from the final requisition or from the final payment as certified by the **Engineer** and approved by the **Commissioner**, shall not be effective to reserve such claims, anything stated to the **Contractor** orally or in writing by any official, agent or employee of the **City** to the contrary notwithstanding.

46.3 Should the **Contractor** refuse to accept the final payment as tendered by the **Comptroller**, it shall constitute a waiver of any right to interest thereon.

46.4 The **Contractor**, however, shall not be barred by this Article 46 from commencing an action for breach of **Contract** to the extent permitted by **Law** and by the terms of the **Contract** for any claims that are contained in the verified statement filed with the **Contractor's** substantial and final requisitions pursuant to Articles 44 and 45 or that arose after submission of the final payment requisition, provided that a detailed and verified statement of claim is served upon the contracting **Agency** and **Comptroller** not later than forty (40) **Days** after the making of such final payment by electronic funds transfer (EFT)or the mailing of such final payment. The statement shall specify the items upon which the claim will be based and any such claim shall be limited to such items.

ARTICLE 47. APPROVAL BY PUBLIC DESIGN COMMISSION

47.1 All works of art, including paintings, mural decorations, stained glass, statues, bas-reliefs, and other sculptures, monuments, fountains, arches, and other structures of a permanent character intendedfor ornament or commemoration, and every design of the same to be used in the performance of this **Contract**, and the design of all bridges, approaches, buildings, gates, fences, lamps, or structures to be erected, pursuant

to the terms of this **Contract**, shall be submitted to the Art Commission, d/b/a the Public Design Commission of the City of New York, and shall be approved by the Public Design Commission prior to the erection or placing in position of the same. The final payment shall not become due or payable under this **Contract** unless and until the Public Design Commission shall certify that the design for the **Work** herein contracted for has been approved by the said Public Design Commission, and that the same has been executed in substantial accordance with the design so approved, pursuant to the provisions of Chapter 37, Section 854 of the **City** Charter, as amended.

CHAPTER X: CONTRACTOR'S DEFAULT

ARTICLE 48. COMMISSIONER'S RIGHT TO DECLARE CONTRACTOR IN DEFAULT

48.1 In addition to those instances specifically referred to in other Articles herein, the **Commissioner** shall have the right to declare the **Contractor** in default of this **Contract** if:

48.1.1 The **Contractor** fails to commence **Work** when notified to do so by the **Commissioner**; or if

48.1.2 The **Contractor** shall abandon the **Work**; or if

48.1.3 The **Contractor** shall refuse to proceed with the **Work** when and as directed by the **Commissioner**; or if

48.1.4 The **Contractor** shall, without just cause, reduce its working force to a number which, if maintained, would be insufficient, in the opinion of the **Commissioner**, to complete the **Work** in accordance with the progress schedule; or if

48.1.5 The **Contractor** shall fail or refuse to increase sufficiently such working force when ordered to do so by the **Commissioner**; or if

48.1.6 The **Contractor** shall sublet, assign, transfer, convert or otherwise dispose of this **Contract** other than as herein specified; or sell or assign a majority interest in the **Contractor**; or if

48.1.7 The **Contractor** fails to secure and maintain all required insurance; or if

48.1.8 A receiver or receivers are appointed to take charge of the **Contractor's** property or affairs; or if

48.1.9 The **Commissioner** shall be of the opinion that the **Contractor** is or has been unnecessarily or unreasonably or willfully delaying the performance and completion of the **Work**, or the award of necessary subcontracts, or the placing of necessary material and equipment orders; or if

48.1.10 The **Commissioner** shall be of the opinion that the **Contractor** is or has been willfully or in bad faith violating any of the provisions of this **Contract**; or if

48.1.11 The **Commissioner** shall be of the opinion that the **Work** cannot be completed within the time herein provided therefor or within the time to which such completion may have been extended; provided, however, that the impossibility of timely completion is, in the

Commissioner's opinion, attributable to conditions within the **Contractor's** control; orif

48.1.12 The **Work** is not completed within the time herein provided therefor or within the time to which the **Contractor** may be entitled to have such completion extended; or if

48.1.13 Any statement or representation of the **Contractor** in the **Contract** or in any document submitted by the **Contractor** with respect to the **Work**, the **Project**, or the **Contract** (or for purposes of securing the **Contract**) was untrue or incorrect when made; or if

48.1.14 The **Contractor** or any of its officers, directors, partners, five (5%) percent shareholders, principals, or other persons substantially involved in its activities, commits any of the acts or omissions specified as the grounds for debarment in the **PPB** Rules.

48.2 Before the **Commissioner** shall exercise his/her right to declare the **Contractor** in default, the **Commissioner** shall give the **Contractor** an opportunity to be heard, upon not less than two (2) **Days**' notice.

ARTICLE 49. EXERCISE OF THE RIGHT TO DECLARE DEFAULT

49.1 The right to declare the **Contractor** in default for any of the grounds specified or referred to in Article 48 shall be exercised by sending the **Contractor** a notice, signed by the **Commissioner**, setting forth the ground or grounds upon which such default is declared (hereinafter referred to as a "Notice of Default").

49.2 The **Commissioner's** determination that the **Contractor** is in default shall be conclusive, final, and binding on the parties and such a finding shall preclude the **Contractor** from commencing a plenary action for any damages relating to the **Contract**. If the **Contractor** protests the determination of the **Commissioner**, the **Contractor** may commence an action in a court of competent jurisdiction of the State of New York under Article 78 of the New York Civil Practice Law and Rules.

ARTICLE 50. QUITTING THE SITE

50.1 Upon receipt of such notice the **Contractor** shall immediately discontinue all further operations under this **Contract** and shall immediately quit the **Site**, leaving untouched all plant, materials, equipment, tools, and supplies then on the **Site**.

ARTICLE 51. COMPLETION OF THE WORK

51.1 The **Commissioner**, after declaring the **Contractor** in default, may then have the **Work** completed by such means and in such manner, by contract with or without public letting, or otherwise, as he/she may deem advisable, utilizing for such purpose such of the **Contractor's** plant, materials, equipment, tools, and supplies remaining on the **Site**, and also such **Subcontractors**, as he/she may deem advisable.

51.2 After such completion, the **Commissioner** shall make a certificate stating the expense incurred in such completion, which shall include the cost of re-letting and also the total amount of liquidated damages (at the rate provided for in the **Contract**) from the date when the **Work** should have been completed by the **Contractor** in accordance with the terms hereof to the date of actual completion of the **Work**. Such certificate shall be binding and conclusive upon the **Contractor**, its sureties, and any person claiming under the **Contractor**, as to the amount thereof.

51.3 The expense of such completion, including any and all related and incidental costs, as so certified by the **Commissioner**, and any liquidated damages assessed against the **Contractor**, shall be charged against and deducted out of monies which are earned by the **Contractor** prior to the date of default. Should the expense of such completion, as certified by the **Commissioner**, exceed the total sum which would have been payable under the **Contract** if it had been completed by the **Contractor**, any excess shall be paid by the **Contractor**.

ARTICLE 52. PARTIAL DEFAULT

52.1 In case the **Commissioner** shall declare the **Contractor** in default as to a part of the **Work** only, the **Contractor** shall discontinue such part, shall continue performing the remainder of the **Work** in strict conformity with the terms of this **Contract**, and shall in no way hinder or interfere with any **Other Contractor(s)** or persons whom the **Commissioner** may engage to complete the **Work** as to which the **Contractor** was declared in default.

52.2 The provisions of this Chapter relating to declaring the **Contractor** in default as to the entire **Work** shall be equally applicable to a declaration of partial default, except that the **Commissioner** shall be entitled to utilize for completion of the part of the **Work** as to which the **Contractor** was declared in default only such plant, materials, equipment, tools, and supplies as had been previously used by the **Contractor** on such part.

ARTICLE 53. PERFORMANCE OF UNCOMPLETED WORK

53.1 In completing the whole or any part of the **Work** under the provisions of this Chapter X, the **Commissioner** shall have the power to depart from or change or vary the terms and provisions of this **Contract**, provided, however, that such departure, change or variation is made for the purpose of reducing the time or expense of such completion. Such departure, change or variation, even to the extent of accepting a lesser or different performance, shall not affect the conclusiveness of the **Commissioner's** certificate of the cost of completion referred to in Article 51, nor shall it constitute a defense to an action to recover the amount by which such certificate exceeds the amount which would have been payable to the **Contractor** hereunder but for its default.

ARTICLE 54. OTHER REMEDIES

54.1 In addition to the right to declare the **Contractor** in default pursuant to this Chapter X, the **Commissioner** shall have the absolute right, in his/her sole discretion and without a hearing, to complete or cause to be completed in the same manner as described in Articles 51 and 53, any or all unsatisfactory or uncompleted punch list **Work** that remains after the completion date specified in the **Final Approved Punch List**. A written notice of the exercise of this right shall be sent to the **Contractor** who shall immediately quit the **Site** in accordance with the provisions of Article 50.

54.2 The expense of completion permitted under Article 54.1, including any and all related and incidental costs, as so certified by the **Commissioner**, shall be charged against and deducted out of monies which have been earned by the **Contractor** prior to the date of the exercise of the right set forth in Article 54.1; the balance of such monies, if any, subject to the other provisions of this **Contract**, to be paid to the **Contractor** without interest after such completion. Should the expense of such completion, as certified by

the **Commissioner**, exceed the total sum which would have been payable under the **Contract** if it had been completed by the **Contractor**, any excess shall be paid by the **Contractor**.

54.3 The previous provisions of this Chapter X shall be in addition to any and all other remedies available under **Law** or in equity.

54.4 The exercise by the **City** of any remedy set forth herein shall not be deemed a waiver by the **City** of any other legal or equitable remedy contained in this **Contract** or provided under **Law**.

CHAPTER XI: MISCELLANEOUS PROVISIONS

ARTICLE 55. CONTRACTOR'S WARRANTIES

55.1 In consideration of, and to induce, the award of this **Contract** to the **Contractor**, the **Contractor** represents and warrants:

55.1.1 That it is financially solvent, sufficiently experienced and competent to performthe **Work**; and

55.1.2 That the facts stated in its bid and the information given by it pursuant to the Information for Bidders is true and correct in all respects; and

55.1.3 That it has read and complied with all requirements set forth in the **Contract**.

ARTICLE 56. CLAIMS AND ACTIONS THEREON

56.1 Any claim, that is not subject to dispute resolution under the **PPB** Rules or this **Contract**, against the **City** for damages for breach of **Contract** shall not be made or asserted in any action, unless the **Contractor** shall have strictly complied with all requirements relating to the giving of notice and of information with respect to such claims, as herein before provided.

56.2 Nor shall any action be instituted or maintained on any such claims unless such action is commenced within six (6) months after **Substantial Completion**; except that:

56.2.1 Any claims arising out of events occurring after **Substantial Completion** and before **Final Acceptance** of the **Work** shall be asserted within six (6) months of **Final Acceptance** of the **Work**;

56.2.2 If the **Commissioner** exercises his/her right to complete or cause to complete any or all unsatisfactory or uncompleted punch list **Work** that remains after the completion date specified in the **Final Approved Punch List** pursuant to Article 54, any such action shall be commenced within six (6) months from the date the **Commissioner** notifies the **Contractor** in writing that he/she has exercised such right. Any claims for monies deducted, retained or withheld under the provisions of this **Contract** shall be assertedwithin six (6) months after the date when such monies otherwise become due and payable hereunder; and

56.2.3 If the **Commissioner** exercises his/her right to terminate the **Contract** pursuant to Article 64, any such action shall be commenced within six (6) months of the date the **Commissioner** exercises said right.

ARTICLE 57. INFRINGEMENT

57.1 The **Contractor** shall be solely responsible for and shall defend, indemnify, and hold the **City** harmless from any and all claims (even if the allegations of the lawsuit are without merit) and judgments for damages and from costs and expenses to which the **City** may be subject to or which it may suffer or incur allegedly arising out of or in connection with any infringement by the **Contractor** of any copyright, trade secrets, trademark or patent rights or any other property or personal right of any third party by the **Contractor** and/or its **Subcontractors** in the performance or completion of the **Work**. Insofar as the facts or **Law** relating to any claim would preclude the **City** from being completely indemnified by the **Contractor**, the **City** shall be partially indemnified by the **Contractor** to the fullest extent permitted by **Law**.

ARTICLE 58. NO CLAIM AGAINST OFFICIALS, AGENTS OR EMPLOYEES

58.1 No claim whatsoever shall be made by the **Contractor** against any official, agent or employee of the **City** for, or on account of, anything done or omitted to be done in connection with this **Contract**.

ARTICLE 59. SERVICE OF NOTICES

59.1 The **Contractor** hereby designates the business address, fax number, and email address specified in its bid, as the place where all notices, directions or other communications to the **Contractor** may be delivered, or to which they may be mailed. Any notice, direction, or communication from either party to the other shall be in writing and shall be deemed to have been given when (i) delivered personally; (ii) sent by certified mail, return receipt requested; (iii) delivered by overnight or same day courier service in a properly addressed envelope with confirmation; or (iv) sent by fax or email and, unless receipt of the fax or e-mail is acknowledged by the recipient by fax or e-mail, deposited in a post office box regularly maintained by the United States Postal Service in a properly addressed, postage pre- paid envelope.

59.2 **Contractor's** notice address, email address, or fax number may be changed at any time by an instrument in writing, executed and acknowledged by the **Contractor**, and delivered to the **Commissioner**.

59.3 Nothing herein contained shall, however, be deemed to preclude or render inoperative the service of any notice, direction or other communication upon the **Contractor** personally, or, if the **Contractor** is a corporation, upon any officer thereof.

ARTICLE 60. UNLAWFUL PROVISIONS DEEMED STRICKEN FROM CONTRACT

60.1 If this **Contract** contains any unlawful provision not an essential part of the **Contract** and which shall not appear to have been a controlling or material inducement to the making thereof, the same shall be deemed of no effect and shall, upon notice by either party, be deemed stricken from the **Contract** without affecting the binding force of the remainder.

ARTICLE 61. ALL LEGAL PROVISIONS DEEMED INCLUDED

61.1 It is the intent and understanding of the parties to this **Contract** that each and every provision of **Law** required to be inserted in this **Contract** shall be and is inserted herein. Furthermore, it is hereby stipulated that every such provision is to be deemed to be inserted herein, and if, through mistake or otherwise, any such provision is not inserted, or is not inserted in correct form, then this **Contract** shall forthwith upon the application of either party be amended by such insertion so as to comply strictly with the **Law** and without prejudice to the rights of either party hereunder.

ARTICLE 62. TAX EXEMPTION

62.1 The **City** is exempt from payment of Federal, State, and local taxes, including sales and compensating use taxes of the State of New York and its cities and counties on all tangible personal property sold to the **City** pursuant to the provisions of this **Contract**. These taxes are not to be included in bids. However, this exemption does not apply to tools, machinery, equipment or other property leased by or to the **Contractor**, **Subcontractor** or **Materialman** or to tangible personal property which, even though it is consumed, is not incorporated into the completed **Work** (consumable supplies) and tangible personal property that the **Contractor** is required to remove from the **Site** during or upon completion of the **Work**. The **Contractor** and its **Subcontractors** and **Materialmen** shall be responsible for and pay any and all applicable taxes, including sales and compensating use taxes, on such leased tools, machinery, equipment or other property and upon all such consumable supplies and tangible personal property that the **Contractor** is required to remove from the **Site** during or upon completion of the **Work**.

62.2 The **Contractor** agrees to sell and the **City** agrees to purchase all tangible personal property, other than consumable supplies and other tangible personal property that the **Contractor** is required to remove from the **Site** during or upon completion of the **Work**, that is required, necessary or proper for or incidental to the construction of the **Project** covered by this **Contract**. The sum paid under this **Contract** for such tangible personal property shall be in full payment and consideration for the sale of such tangible personal property.

62.2.1 The **Contractor** agrees to construct the **Project** and to perform all **Work**, labor and services rendered, necessary, proper or incidental thereto for the sum shown in the bid forthe performance of such **Work**, labor, and services, and the sum so paid pursuant to this **Contract** for such **Work**, labor, and services, shall be in full consideration for the performance by the **Contractor** of all its duties and obligations under this **Contract** in connection with said **Work,** labor, and services.

62.3 20 NYCRR Section 541.3(d) provides that a **Contractor**'s purchases of tangible personal property that is either incorporated into real property owned by a governmental entity or purchased for and sold to a governmental entity are exempt from sales and use tax. The **City** shall not pay sales tax for any such tangible personal property that it purchases from the **Contractor** pursuant to the **Contract.** With respect to such tangible personal property, the **Contractor**, at the request of the **City**, shall furnish to the **City** such bills of sale and other instruments as may be required by the **City**, properly executed, acknowledged and delivered assuring to the **City** title to such tangible personal property, free of liens and/or encumbrances, and the **Contractor** shall mark or otherwise identify all such tangible personal property as the property of the **City**.

62.4 Title to all tangible personal property to be sold by the **Contractor** to the **City** pursuant to the provisions of the **Contract** shall immediately vest in and become the sole property of the **City** upon delivery of such tangible personal property to the **Site**. Notwithstanding such transfer of title, the **Contractor** shall

have the full and continuing responsibility to install such tangible personal property in accordance with the provisions of this **Contract**, protect it, maintain it in a proper condition and forthwith repair, replace and make good any damage thereto, theft or disappearance thereof, and furnish additional tangible personal property in place of any that may be lost, stolen or rendered unusable, without cost to the **City**, until such time as the **Work** covered by the **Contract** is fully accepted by the **City**. Such transfer of title shall in no way affect any of the **Contractor's** obligations hereunder. In the event that, after title has passed to the **City**, any of the tangible personal property is rejected as being defective or otherwise unsatisfactory, title to all such tangible personal property shall be deemed to have been transferred back to the **Contractor**.

62.5 The purchase by **Subcontractors** or **Materialmen** of tangible personal property to be sold hereunder shall be a purchase or procurement for resale to the **Contractor** (either directly or through other **Subcontractors**) and therefore not subject to the aforesaid sales and compensating use taxes, provided that the subcontracts and purchase agreements provide for the resale of such tangible personal property and that such subcontracts and purchase agreements are in a form similar to this **Contract** with respect to the separation of the sale of consumable supplies and tangible personal property that the **Contractor** is required to remove from the **Site** during or upon completion of the **Work** from the **Work** and labor, services, and any other matters to be provided, and provided further that the subcontracts and purchase agreements provide separate prices for tangible personal property and all other services and matters. Such separation shall actually be followed in practice, including the separation of payments for tangible personal property from the payments for other **Work** and labor and other things to be provided.

62.6 The **Contractor** and its **Subcontractors** and **Materialmen** shall furnish a **Contractor** Exempt Purchase Certificate to all persons, firms or corporations from which they purchase tangible personal property for the performance of the **Work** covered by this **Contract**.

62.7 In the event any of the provisions of this Article 62 shall be deemed to be in conflict with any other provisions of this **Contract** or create any ambiguity, then the provisions of this Article 62 shall control.

ARTICLE 63. INVESTIGATION(S) CLAUSE

63.1 The parties to this **Contract** agree to cooperate fully and faithfully with any investigation, audit or inquiry conducted by a United States, a State of New York (State) or a **City** governmental agency or authority that is empowered directly or by designation to compel the attendance of witnesses and to examine witnesses under oath, or conducted by the Inspector General of a governmental agency that is a party in interest to the transaction, submitted bid, submitted proposal, contract, lease, permit or license that is the subject of the investigation, audit or inquiry.

63.2 If any person who has been advised that his/her statement, and any information from such statement, will not be used against him/her in any subsequent criminal proceeding refuses to testify before a grand jury or other governmental agency or authority empowered directly or by designation to compel the attendance of witnesses and to examine witnesses under oath concerning the award of or performance under any transaction, agreement, lease, permit, contract, or license entered into with the **City**, the State, or any political subdivision or public authority thereof, or the Port Authority of NewYork and New Jersey, or any local development corporation within the **City**, or any public benefit corporation organized under the **Laws** of the State of New York, or;

63.3 If any person refuses to testify for a reason other than the assertion of his/her privilege against self incrimination in an investigation, audit or inquiry conducted by a **City** or State governmental agency or authority empowered directly or by designation to compel the attendance of witnesses and to take testimony under oath, or by the Inspector General of the governmental agency that is a party in interestin, and is

seeking testimony concerning the award of, or performance under any transaction, agreement, lease, permit, contract, or license entered into with the **City**, the State, or any political subdivision thereof or any local development corporation within the **City**, then;

63.4 The **Commissioner** whose **Agency** is a party in interest to the transaction, submitted bid, submitted proposal, contract, lease, permit, or license shall convene a hearing, upon not less than five (5) **Days**' written notice to the parties involved to determine if any penalties should attach for the failure of a person to testify.

63.5 If any non-governmental party to the hearing requests an adjournment, the **Commissioner** who convened the hearing may, upon granting the adjournment, suspend any contract, lease, permit, or license, pending the final determination pursuant to Article 63.7 without the **City** incurring any penalty or damages for delay or otherwise.

63.6 The penalties which may attach after a final determination by the **Commissioner** may include but shall not exceed:

63.6.1 The disqualification for a period not to exceed five (5) years from the date of an adverse determination for any person, or any entity of which such person was a member at the time the testimony was sought, from submitting bids for, or transacting business with, or entering into or obtaining any contract, lease, permit or license with or from the **City**; and/or

63.6.2 The cancellation or termination of any and all such existing **City** contracts, leases, permits or licenses that the refusal to testify concerns and that have not been assigned as permitted under this **Contract**, nor the proceeds of which pledged, to an unaffiliated and unrelated institutional lender for fair value prior to the issuance of the notice scheduling the hearing, without the **City** incurring any penalty or damages on account of such cancellation or termination; monies lawfully due for goods delivered, work done, rentals, or fees accrued prior to the cancellation or termination shall be paid by the **City**.

63.7 The **Commissioner** shall consider and address in reaching his/her determination and inassessing an appropriate penalty the factors in Articles 63.7.1 and 63.7.2. The **Commissioner** may also consider, if relevant and appropriate, the criteria established in Articles 63.7.3 and 63.7.4, in addition to any other information which may be relevant and appropriate:

63.7.1 The party's good faith endeavors or lack thereof to cooperate fully and faithfully with any governmental investigation or audit, including but not limited to the discipline, discharge, or disassociation of any person failing to testify, the production of accurate and complete books and records, and the forthcoming testimony of all other members, agents, assignees or fiduciaries whose testimony is sought.

63.7.2 The relationship of the person who refused to testify to any entity that is a party tothe hearing, including but not limited to, whether the person whose testimony is sought has an ownership interest in the entity and/or the degree of authority and responsibility theperson has within the entity.

63.7.3 The nexus of the testimony sought to the subject entity and its contracts, leases, permits or licenses with the **City**.

63.7.4 The effect a penalty may have on an unaffiliated and unrelated party or entity thathas a significant interest in an entity subject to penalties under Article 63.6, provided that the party

or entity has given actual notice to the **Commissioner** upon the acquisition of the interest, or at the hearing called for in Article 63.4, gives notice and proves that such interest was previously acquired. Under either circumstance the party or entity shall present evidence at the hearing demonstrating the potential adverse impact a penalty will have on such person or entity.

63.8 Definitions:

63.8.1 The term "license" or "permit" as used in this Article 63 shall be defined as a license, permit, franchise or concession not granted as a matter of right.

63.8.2 The term "person" as used in this Article 63 shall be defined as any natural person doing business alone or associated with another person or entity as a partner, director, officer, principal or employee.

63.8.3 The term "entity" as used in this Article 63 shall be defined as any firm, partnership, corporation, association, joint venture, or person that receives monies, benefits, licenses, leases, or permits from or through the **City** or otherwise transacts business with the **City**.

63.8.4 The term "member" as used in this Article 63 shall be defined as any person associated with another person or entity as a partner, director, officer, principal or employee.

63.9 In addition to and notwithstanding any other provision of this **Contract**, the **Commissioner** may in his/her sole discretion terminate this **Contract** upon not less than three (3) **Days'** written notice in the event the **Contractor** fails to promptly report in writing to the **Commissioner** of the Department of Investigations ("DOI") of the **City** any solicitation of money, goods, requests for future employment or other benefit or thing of value, by or on behalf of any employee of the **City** or other person, firm, corporation or entity for any purpose which may be related to the procurement or obtaining of this **Contract** by the **Contractor**, or affecting the performance of this **Contract**.

ARTICLE 64. TERMINATION BY THE CITY

64.1 In addition to termination pursuant to any other article of this **Contract**, the **Commissioner** may, at any time, terminate this **Contract** by written notice to the **Contractor**. In the event of termination, the **Contractor** shall, upon receipt of such notice, unless otherwise directed by the **Commissioner**:

64.1.1 Stop **Work** on the date specified in the notice;

64.1.2 Take such action as may be necessary for the protection and preservation of the **City's** materials and property;

64.1.3 Cancel all cancelable orders for material and equipment;

64.1.4 Assign to the **City** and deliver to the **Site** or another location designated by the **Commissioner**, any non-cancelable orders for material and equipment that is not capable of use except in the performance of this **Contract** and has been specifically fabricated for the sole purpose of this **Contract** and not incorporated in the **Work**;

64.1.5 Take no action which will increase the amounts payable by the **City** under this
64.1.5 **Contract**.

64.2 In the event of termination by the **City** pursuant to this Article 64, payment to the **Contractor** shall be in accordance with Articles 64.2.1, 64.2.2 or 64.2.3, to the extent that each respective article applies.

64.2.1 Lump Sum Contracts or Items: On all lump sum **Contracts**, or on lump sum items in a **Contract**, the **City** will pay the **Contractor** the sum of the amounts described in Articles 64.2.1(a) and 64.2.1(b), less all payments previously made pursuant to this **Contract**. On lump sum **Contracts** only, the **City** will also pay the **Contractor** an additional sum as provided in Article 64.2.1(c).

64.2.1(a) For **Work** completed prior to the notice of termination, the **Contractor** shall be paid a pro rata portion of the lump sum bid amount, plus approved change orders, based upon the percent completion of the **Work**, as determined by the **Commissioner**. For the purpose of determining the pro rata portion of the lump sum bid amount to which the **Contractor** is entitled, the bid breakdown submitted in accordance with Article 41 shall be considered, but shall not be dispositive. The **Commissioner's** determination hereunder shall be final, binding, and conclusive.

64.2.1(b) For non-cancelable material and equipment that is not capable of use except in the performance of this **Contract** and has been specifically fabricated for the sole purpose of this **Contract**, but not yet incorporated in the **Work**, the **Contractor** shall be paid the lesser of the following, less salvage value:

64.2.1(b)(i) The Direct Cost, as defined in Article 64.2.4; or

64.2.1(b)(ii) The fair and reasonable value, if less than Direct Cost, of such material and equipment, plus necessary and reasonable delivery costs.

64.2.1(b)(iii) In addition, the **Contractor** shall be paid five (5%) percent of the amount described in Article 64.2.1(b)(i) or Article 64.2.1(b)(ii), whichever applies.

64.2.1(c) Except as otherwise provided in Article 64.2.1(d), on all lump sum **Contracts**, the **Contractor** shall be paid the percentage indicated below applied tothe difference between the total lump sum bid amount and the total of all payments made prior to the notice of termination plus all payments allowed pursuant to Articles 64.2.1(a) and 64.2.1(b):

64.2.1(c)(i) Five (5%) percent of the first five million ($5,000,000) dollars; and

64.2.1(c)(ii) Three (3%) percent of any amount between five million ($5,000,000) dollars and fifteen million ($15,000,000) dollars; plus

64.2.1(c)(iii) One (1%) percent of any amount over fifteen million ($15,000,000) dollars.

64.2.1(d) In the event the **City** terminates a lump sum **Contract** pursuant to this Article 64 within ninety (90) **Days** after registration of the **Contract** with the **Comptroller**, the **Contractor** shall be paid one (1%) percent of the difference between the lump sum bid amount and the total of all payments made pursuant to this Article 64.2.

64.2.2 Unit Price Contracts or Items: On all unit price **Contracts**, or on unit price items ina

Contract, the **City** will pay the **Contractor** the sum of the amounts described in Articles 64.2.2(a) and 64.2.2(b), less all payments previously made pursuant to this **Contract**:

64.2.2(a) For all completed units, the unit price stated in the **Contract**, and

64.2.2(b) For units that have been ordered but are only partially completed, the **Contractor** will be paid:

64.2.2(b)(i) A pro rata portion of the unit price stated in the **Contract** based upon the percent completion of the unit and

64.2.2(b)(ii) For non-cancelable material and equipment, payment willbe made pursuant to Article 64.2.1(b).

64.2.3 Time and Materials Contracts or Items Based on Time and Material Records: On all **Contracts** or items in a **Contract** where payment for the **Work** is based on time and material records, the **Contractor** shall be paid in accordance with Article 26, less all payments previously made pursuant to this **Contract**.

64.2.4 Direct Costs: Direct Costs as used in this Article 64.2 shall mean:

64.2.4(a) The actual purchase price of material and equipment, plus necessary and reasonable delivery costs,

64.2.4(b) The actual cost of labor involved in construction and installation at the **Site**, and

64.2.4(c) The actual cost of necessary bonds and insurance purchased pursuant to requirements of this **Contract** less any amounts that have been or should be refunded by the **Contractor's** sureties or insurance carriers.

64.2.4(d) Direct Costs shall not include overhead.

64.3 In no event shall any payments under this Article 64 exceed the **Contract** price for such items.

64.4 All payments pursuant to Article 64 shall be in the nature of liquidated damages and shall be accepted by the **Contractor** in full satisfaction of all claims against the **City**.

64.5 The **City** may deduct or set off against any sums due and payable pursuant to this Article 64, any deductions authorized by this **Contract** or by **Law** (including but not limited to liquidated damages) and any claims it may have against the **Contractor**. The **City's** exercise of the right to terminate the **Contract** pursuant to this Article 64 shall not impair or otherwise effect the **City's** right to assert any claims it may have against the **Contractor** in a plenary action.

64.6 Where the **Work** covered by the **Contract** has been substantially completed, as determined in writing by the **Commissioner**, termination of the **Work** shall be handled as an omission of **Work** pursuant to Articles 29 and 33, in which case a change order will be issued to reflect an appropriate reduction in the **Contract** sum, or if the amount is determined after final payment, such amount shall be paid by the **Contractor**.

ARTICLE 65. CHOICE OF LAW, CONSENT TO JURISDICTION AND VENUE

65.1 This **Contract** shall be deemed to be executed in the **City** regardless of the domicile of the **Contractor**, and shall be governed by and construed in accordance with the **Laws** of the State of New York and the **Laws** of the United States, where applicable.

65.2 The parties agree that any and all claims asserted against the **City** arising under this **Contract** or related thereto shall be heard and determined in the courts of the State of New York ("New York State Courts") located in the **City** and County of New York. To effect this **Contract** and intent, the **Contractor** agrees:

65.2.1 If the **City** initiates any action against the **Contractor** in Federal court or in a New York State Court, service of process may be made on the **Contractor** either in person, wherever such **Contractor** may be found, or by registered mail addressed to the **Contractor** at its address as set forth in this **Contract**, or to such other address as the **Contractor** may provide to the **City** in writing; and

65.2.2 With respect to any action between the **City** and the **Contractor** in a New York State Court, the **Contractor** hereby expressly waives and relinquishes any rights it might otherwise have:

65.2.2(a) To move to dismiss on grounds of forum non conveniens;

65.2.2(b) To remove to Federal Court; and

65.2.2(c) To move for a change of venue to a New York State Court outside New York County.

65.2.3 With respect to any action brought by the **City** against the **Contractor** in a Federal Court located in the **City**, the **Contractor** expressly waives and relinquishes any right it might otherwise have to move to transfer the action to a Federal Court outside the **City**.

65.2.4 If the **Contractor** commences any action against the **City** in a court located other than in the **City** and County of New York, upon request of the **City**, the **Contractor** shall either consent to a transfer of the action to a New York State Court of competent jurisdiction located in the **City** and County of New York or, if the Court where the action is initially brought will not or cannot transfer the action, the **Contractor** shall consent to dismiss such action without prejudice and may thereafter reinstate the action in a New York State Court of competent jurisdiction in New York County.

65.3 If any provision(s) of this Article 65 is held unenforceable for any reason, each and all other provision(s) shall nevertheless remain in full force and effect.

ARTICLE 66. PARTICIPATION IN AN INTERNATIONAL BOYCOTT

66.1 The **Contractor** agrees that neither the **Contractor** nor any substantially owned affiliated company is participating or shall participate in an international boycott in violation of the provisions ofthe Federal Export Administration Act of 1979, as amended, or the regulations of the United States Department of Commerce (Commerce Department) promulgated thereunder.

66.2 Upon the final determination by the Commerce Department or any other agency of the United States as to, or conviction of the **Contractor** or a substantially-owned affiliated company thereof for participation in an international boycott in violation of the provisions of the Export Administration Act of 1979, as amended, or the regulations promulgated thereunder, the **Comptroller** may, at his/her option, render forfeit and void this **Contract**.

66.3 The **Contractor** shall comply in all respects, with the provisions of Section 6-114 of the Administrative Code and the rules and regulations issued by the **Comptroller** thereunder.

ARTICLE 67. LOCALLY BASED ENTERPRISE PROGRAM

67.1 This **Contract** is subject to the requirements of Section 6-108.1 of the Administrative Code and regulations promulgated thereunder. No construction contract shall be awarded unless and until these requirements have been complied with in their entirety; however, compliance with this Article 67 is not required if the Agency sets Subcontractor Participation Goals for Minority- and Women-Owned Business Enterprises (M/WBEs).

67.2 Unless specifically waived by the **Commissioner** with the approval of the Division of Economic and Financial Opportunity of the **City** Department of Business Services, if any portion of the **Contract** is subcontracted, not less than ten (10%) percent of the total dollar amount of the **Contract** shall be awarded to locally based enterprises (LBEs); except that where less than ten (10%) percent of the total dollar amount of the **Contract** is subcontracted, such lesser percentage shall be so awarded.

67.3 The **Contractor** shall not require performance and payment bonds from LBE **Subcontractors**.

67.4 If the **Contractor** has indicated prior to award that no **Work** will be subcontracted, no **Work** shall be subcontracted without the prior approval of the **Commissioner**, which shall be granted only if the **Contractor** makes a good faith effort beginning at least six (6) weeks before the **Work** is to be performed to obtain LBE **Subcontractors** to perform the **Work**.

67.5 If the **Contractor** has not identified sufficient LBE **Subcontractors** prior to award, it shall sign a letter of compliance stating that it complies with Section 6-108.1 of the Administrative Code, recognizes that achieving the LBE requirement is a condition of its **Contract**, and shall submit documentation demonstrating its good faith efforts to obtain LBEs. After award, the **Contractor** shall begin to solicit LBE's to perform subcontracted **Work** at least six (6) weeks before the date such **Work** is to be performed and shall demonstrate that a good faith effort has been made to obtain LBEs on each subcontract until it meets the required percentage.

67.6 Failure of the **Contractor** to comply with the requirements of Section 6-108.1 of the Administrative Code and the regulations promulgated thereunder shall constitute a material breach of this **Contract**. Remedy for such breach may include the imposition of any or all of the following sanctions:

67.6.1 Reducing the **Contractor's** compensation by an amount equal to the dollar value of the percentage of the LBE subcontracting requirement not complied with;

67.6.2 Declaring the **Contractor** in default;

67.6.3 If the **Contractor** is an LBE, de-certifying and declaring the **Contractor** ineligible to participate in the LBE program for a period of up to three (3) years.

ARTICLE 68. ANTITRUST

68.1 The **Contractor** hereby assigns, sells, and transfers to the **City** all right, title, and interest in and to any claims and causes of action arising under the antitrust **Laws** of New York State or of the United States relating to the particular goods or services purchased or procured by the **City** under this **Contract**.

ARTICLE 69. MacBRIDE PRINCIPLES PROVISIONS

69.1 Notice To All Prospective **Contractors**:

69.1.1 Local Law No. 34 of 1991 became effective on September 10, 1991 and added Section 6-115.1 of the Administrative Code. The local **Law** provides for certain restrictions on **City Contracts** to express the opposition of the people of the **City** to employment discrimination practices in Northern Ireland to promote freedom of work-place opportunity.

69.1.2 Pursuant to Section 6-115.1, prospective **Contractors** for **Contracts** to provide goods or services involving an expenditure of an amount greater than ten thousand ($10,000.) dollars, or for construction involving an amount greater than fifteen thousand ($15,000.) dollars, are asked to sign a rider in which they covenant and represent, as a material condition of their **Contract**, that any business operations in Northern Ireland conducted by the **Contractor** and any individual or legal entity in which the **Contractor** holds a ten (10%) percent or greater ownership interest in the **Contractor** will be conducted in accordance with the MacBride Principles of nondiscrimination in employment.

69.1.3 Prospective **Contractors** are not required to agree to these conditions. However, in the case of **Contracts** let by competitive sealed bidding, whenever the lowest responsible bidder has not agreed to stipulate to the conditions set forth in this notice and another bidder who has agreed to stipulate to such conditions has submitted a bid within five (5%) percent of the lowest responsible bid for a **Contract** to supply goods, services or contraction of comparable quality, the **Agency** shall refer such bids to the Mayor, the Speaker or other officials, as appropriate, who may determine, in accordance with applicable **Law**, that it is in the best interest of the **City** that the **Contract** be awarded to other than the lowest responsible pursuant to Section 313(b)(2) of the **City** Charter.

69.1.4 In the case of **Contracts** let by other than competitive sealed bidding, if a prospective **Contractor** does not agree to these conditions, no **Agency**, elected official or the **City** Council shall award the **Contract** to that bidder unless the **Agency** seeking to use the goods, services or construction certifies in writing that the **Contract** is necessary for the **Agency** to perform its functions and there is no other responsible **Contractor** who will supply goods, services or construction of comparable quality at a comparable price.

69.2 In accordance with Section 6-115.1 of the Administrative Code, the **Contractor** stipulates that such **Contractor** and any individual or legal entity in which the **Contractor** holds a ten (10%) percent or greater ownership interest in the **Contractor** either:

69.2.1 Have no business operations in Northern Ireland, or

69.2.2 Shall take lawful steps in good faith to conduct any business operations they have in

Northern Ireland in accordance with the MacBride Principles, and shall permit independent monitoring of their compliance with such principles.

69.3 For purposes of this Article, the following terms shall have the following meanings:

69.3.1 "MacBride Principles" shall mean those principles relating to nondiscrimination in employment and freedom of work-place opportunity which require employers doing business in Northern Ireland to:

69.3.1(a) increase the representation of individuals from under-represented religious groups in the workforce, including managerial, supervisory, administrative, clerical and technical jobs;

69.3.1(b) take steps to promote adequate security for the protection of employees from under-represented religious groups both at the work-place and while traveling toand from **Work**;

69.3.1(c) ban provocative religious or political emblems from the workplace;

69.3.1(d) publicly advertise all job openings and make special recruitment efforts to attract applicants from under-represented religious groups;

69.3.1(e) establish layoff, recall, and termination procedures which do not in practice favor a particular religious group;

69.3.1(f) abolish all job reservations, apprenticeship restrictions and different employment criteria which discriminate on the basis of religion;

69.3.1(g) develop training programs that will prepare substantial numbers of current employees from under-represented religious groups for skilled jobs, including the expansion of existing programs and the creation of new programs to train, upgrade, and improve the skills of workers from under-represented religious groups;

69.3.1(h) establish procedures to asses, identify, and actively recruit employees from under-represented religious groups with potential for further advancement; and

69.3.1(i) appoint a senior management staff member to oversee affirmative actionefforts and develop a timetable to ensure their full implementation.

69.4 The **Contractor** agrees that the covenants and representations in Article 69.2 are material conditions to this **Contract**. In the event the **Agency** receives information that the **Contractor** who made the stipulation required by this Article 69 is in violation thereof, the **Agency** shall review such information and give the **Contractor** an opportunity to respond. If the **Agency** finds that a violation has occurred, the **Agency** shall have the right to declare the **Contractor** in default in default and/or terminate this **Contract** for cause and procure supplies, services or **Work** from another source in the manner the **Agency** deems proper. In the event of such termination, the **Contractor** shall pay to the **Agency**, or the **Agency** in its sole discretion may withhold from any amounts otherwise payable to the **Contractor**, the difference between the **Contract** price for the uncompleted portion of this **Contract** and the cost to the **Agency** of completing performance of this **Contract** either itself or by engaging another **Contractor** or **Contractors**. In the case of a requirement **Contract**, the **Contractor** shall be liable for such difference in price for the entire amount of supplies required by the **Agency** for the uncompleted term of **Contractor's Contract**. In the case of a construction **Contract**, the **Agency** shall also have the right to hold the **Contractor** in partial or total default in

accordance with the default provisions of this **Contract**, and/or may seek debarment or suspension of the **Contractor**. The rights and remedies of the **Agency** hereunder shall be in addition to, and not in lieu of, any rights and remedies the **Agency** has pursuant to this **Contract** or by operation of **Law**.

ARTICLE 70. ELECTRONIC FILING/NYC DEVELOPMENT HUB

70.1 The **Contractor** shall electronically file all alteration type-2 and alteration type-3 applications via the New York City Development Hub Web site, except applications for the following types of minor alterations: enlargements, curb cuts, legalizations, fire alarms, builders pavement plans, and jobs filed on Landmark Preservation Commission calendared properties. All such filings must be professionally certified. Information about electronic filing via the New York City Development Hub is available on the **City** Department of Buildings Web site at www.nyc.gov/buildings.

ARTICLE 71. PROHIBITION OF TROPICAL HARDWOODS

71.1 Tropical hardwoods, as defined in Section 165 of the New York State Finance Law (Finance Law), shall not be utilized in the performance of this **Contract** except as expressly permitted by Section 165 of the Finance Law.

ARTICLE 72. CONFLICTS OF INTEREST

72.1 Section 2604 of the **City** Charter and other related provisions of the **City** Charter, the Administrative Code, and the Penal Law are applicable under the terms of this **Contract** in relation to conflicts of interest and shall be extended to **Subcontractors** authorized to perform **Work**, labor and services pursuant to this **Contract** and further, it shall be the duty and responsibility of the **Contractor** to so inform its respective **Subcontractors**. Notice is hereby given that, under certain circumstances, penalties may be invoked against the donor as well as the recipient of any form of valuable gift.

ARTICLE 73. MERGER CLAUSE

73.1 The written **Contract** herein, contains all the terms and conditions agreed upon by the parties hereto, and no other agreement, oral or otherwise, regarding the subject matter of this **Contract** shall be deemed to exist or to bind any of the parties hereto, or to vary any of the terms contained herein.

ARTICLE 74. STATEMENT OF WORK

74.1 The **Contractor** shall furnish all labor and materials and perform all **Work** in strictaccordance with the **Specifications** and **Addenda** thereto, numbered as shown in Schedule A.

ARTICLE 75. COMPENSATION TO BE PAID TO CONTRACTOR

75.1 The **City** will pay and the **Contractor** will accept in full consideration for the performance of the **Contract**, subject to additions and deductions as provided herein, the total sum shown in Schedule A, this said sum being the amount at which the **Contract** was awarded to the **Contractor** at a public letting thereof, based upon the **Contractor's** bid for the **Contract**.

ARTICLE 76. ELECTRONIC FUNDS TRANSFER

76.1 In accordance with Section 6-107.1 of the Administrative Code, the **Contractor** agrees to accept payments under this **Contract** from the **City** by electronic funds transfer (EFT). An EFT is any transfer of funds, other than a transaction originated by check, draft or similar paper instrument, which is initiated through an electronic terminal, telephonic instrument or computer or magnetic tape so as to order, instruct or authorize a financial institution to debit or credit an account. Prior to the first payment made under this **Contract**, the **Contractor** shall designate one financial institution or other authorized payment agent and shall complete the attached "EFT Vendor Payment Enrollment Form" in order to provide the Commissioner of the **City** Department of Finance with information necessary for the **Contractor** to receive electronic funds transfer payments through a designated financial institution or authorized payment agent. The crediting of the amount of a payment to the appropriate account on the books of a financial institution or other authorized payment agent designated by the **Contractor** shall constitute full satisfaction by the **City** for the amount of the payment under this **Contract**. The account information supplied by the **Contractor** to facilitate the electronic funds transfer shall remain confidential to the fullest extent provided by **Law**.

76.2 The **Commissioner** may waive the application of the requirements of this Article 76 to payments on contracts entered into pursuant to Section 315 of the **City** Charter. In addition, the Commissioner of the Department of Finance and the Comptroller may jointly issue standards pursuant to which the **Agency** may waive the requirements of this Article 76 for payments in the following circumstances: (i) for individuals or classes of individuals for whom compliance imposes a hardship; (ii) for classifications or types of checks; or (iii) in other circumstances as may be necessary in the interest of the **City**.

ARTICLE 77. RECORDS RETENTION

77.1 The **Contractor** agrees to retain all books, records, and other documents relevant to this **Contract** for six years after the final payment or termination of this **Contract**, whichever is later. **City**, state, and federal auditors and any other persons duly authorized by the **City** shall have full access to and the right to examine any such books, records, and other documents during the retention period.

ARTICLE 78. EXAMINATION AND VIEWING OF SITE, CONSIDERATION OF OTHER SOURCES OF INFORMATION AND CHANGED SITE CONDITIONS

78.1 Pre-Bidding (Investigation) Viewing of Site – Bidders must carefully view and examine the **Site** of the proposed **Work**, as well as its adjacent area, and seek other usual sources of information, for they will be conclusively presumed to have full knowledge of any and all conditions and hazards on, about or above the **Site** relating to or affecting in any way the performance of the **Work** to be done under the **Contract** that were or should have been known by a reasonably prudent bidder. To arrange a date for visiting the **Site**,

bidders are to contact the **Agency** contact person specified in the bid documents.

78.2 Should the **Contractor** encounter during the progress of the Work site conditions or environmental hazards at the **Site** materially differing from any shown on the **Contract Drawings** or indicated in the **Specifications** or such conditions or environmental hazards as could not reasonablyhave been anticipated by the **Contractor**, which conditions or hazards will materially affect the cost of the **Work** to be done under the **Contract**, the attention of the **Commissioner** must be called immediately to such conditions or hazards before they are disturbed. The **Commissioner** shall thereupon promptly investigate the conditions or hazards. If the **Commissioner** finds that they do so materially differ, and that they could not have been reasonably anticipated by the **Contractor**, the **Contract** may be modified with the **Commissioner**'s written approval.

ARTICLE 79. PARTICIPATION BY MINORITY-OWNED AND WOMEN-OWNED BUSINESS ENTERPRISES IN CITY PROCUREMENT

ARTICLE I. M/WBE PROGRAM

Section 6-129 of the Administrative Code of the City of New York ("Section 6-129") establishes the program for participation in City procurement ("M/WBE Program") by minority- owned business enterprises ("MBEs") and women-owned business enterprises ("WBEs"), certified in accordance with Section 1304 of the New York City Charter. As stated in Section 6- 129, the intent of the program is to address the impact of discrimination on the City's procurement process, and to promote the public interest in avoiding fraud and favoritism in the procurement process, increasing competition for City business, and lowering contract costs. The contract provisions contained herein are pursuant to Section 6-129, and the rules of the Department of Small Business Services ("DSBS") promulgated thereunder.

If this Contract is subject to the M/WBE Program established by Section 6-129, the specific requirements of MBE and/or WBE participation for this Contract are set forth in Schedule B of the Contract (entitled the "M/WBE Utilization Plan") and are detailed below.

The Contractor must comply with all applicable MBE and WBE requirements for this Contract.

All provisions of Section 6-129 are hereby incorporated in the Contract by reference and all terms used herein that are not defined herein shall have the meanings given such terms in Section 6-129.

References to MBEs or WBEs shall also include such businesses certified pursuant to the executive law where credit is required by section 311 of the New York City Charter or other provision of law.

Article I, Part A, below, sets forth provisions related to the participation goals for construction, standard and professional services contracts.

Article I, Part B, below, sets forth miscellaneous provisions related to the M/WBE Program.

PART A: PARTICIPATION GOALS FOR CONSTRUCTION, STANDARD AND PROFESSIONAL SERVICES CONTRACTS OR TASK ORDERS

1. The MBE and/or WBE Participation Goals established for this Contract or Task Orders issued pursuant to this Contract, ("Participation Goals"), as applicable, are set forth on Schedule B, Part 1 to this Contract (see Page 1, Line 1 Total Participation Goals) or will be set forth on Schedule B, Part 1 to Task Orders issued pursuant to this Contract, as applicable.

The Participation Goals represent a percentage of the total dollar value of the Contract or Task Order, as applicable, that may be achieved by awarding subcontracts to firms certified with DSBS as MBEs and/or WBEs, and/or by crediting the participation of prime contractors and/or qualified joint ventures as provided in Section 3 below, unless the goals have been waived or modified by Agency in accordance with Section 6-129 and Part A, Sections 10 and 11 below, respectively.

2. If Participation Goals have been established for this Contract or Task Orders issued pursuant to this Contract, Contractor agrees or shall agree as a material term of the Contract that Contractor shall be subject to the Participation Goals, unless the goals are waived or modified by Agency in accordance with Section 6-129 and Part A, Sections 10 and 11 below, respectively.

3. If Participation Goals have been established for this Contract or Task Order issued pursuant to this Contract, a Contractor that is an MBE and/or WBE shall be permitted to count its own participation toward fulfillment of the relevant Participation Goal, provided that in accordance with Section 6-129 the value of Contractor's participation shall be determined by subtracting from the total value of the Contract or Task Order, as applicable, any amounts that the Contractor pays to direct subcontractors (as defined in Section 6-129(c)(13)), and provided further that a Contractor that is certified as both an MBE and a WBE may count its own participation either toward the goal for MBEs or the goal for WBEs, but not both.

A Contractor that is a qualified joint venture (as defined in Section 6-129(c)(30)) shall be permitted to count a percentage of its own participation toward fulfillment of the relevant Participation Goal. In accordance with Section 6-129, the value of Contractor's participation shall be determined by subtracting from the total value of the Contract or Task Order, as applicable, any amounts that Contractor pays to direct subcontractors, and then multiplying the remainder by the percentage to be applied to total profit to determine the amount to which an MBE or WBE is entitled pursuant to the joint venture agreement, provided that where a participant in a joint venture is certified as both an MBE and a WBE, such amount shall be counted either toward the goal for MBEs or the goal for WBEs, but not both.

4. A. If Participation Goals have been established for this Contract, a prospective contractor shall be required to submit with its bid or proposal, as applicable, a completed Schedule B, M/WBE Utilization Plan, Part 2 (see Pages1-2) indicating: (a) whether the contractor is an MBE or WBE, or qualified joint venture; (b) the percentage of work it intends to award to direct subcontractors; (c) in cases where the contractor intends to award direct subcontracts, a description of the type and dollar value of work designated for participation by MBEs and/or WBEs, and the time frames in which such work is scheduled to begin and end; as well as the name, addresses, and telephone numbers of the M/WBE subcontractors if required by the solicitation; and (d) the prospective contractor's required certification and affirmations. In the event that this M/WBE Utilization Plan indicates that the bidder or proposer, as applicable, does not intend to meet the Participation Goals, the bid or proposal, as applicable, shall be deemed non-responsive, unless Agency has granted the bidder or proposer, as applicable, a pre-award waiver of the Participation Goals in accordance with Section 6-129 and Part A, Section 10 below.

B. (i) If this Contract is for a master services agreement or other requirements type contract that will result in the issuance of Task Orders that will be individually registered ("Master Services Agreement") and is subject to M/WBE Participation Goals, a prospective contractor shall be required to submit with its bid or proposal, as applicable, a completed Schedule B, M/WBE Participation Requirements for Master Services Agreements That Will Require Individually Registered Task Orders, Part 2 (page 2) indicating the prospective contractor's certification and required affirmations to make all reasonable good faith efforts to meet participation goals established on each individual Task Order issued pursuant to this Contract, or if a partial waiver is obtained or such goals are modified by the Agency, to meet the modified Participation Goals by soliciting and obtaining the participation of certified MBE and/or WBE firms. In the event that the Schedule B indicates that the bidder or proposer, as applicable, does not intend to meet the Participation Goals that may be established on Task Orders issued pursuant to this Contract, the bid or proposal, as applicable, shall be deemed non- responsive.

(ii) Participation Goals on a Master Services Agreement will be established for individual Task Orders issued after the Master Services Agreement is awarded. If Participation Goals have been established on a Task Order, a contractor shall be required to submit a Schedule B – M/WBE Utilization Plan For Independently Registered Task Orders That Are Issued Pursuant to Master Services Agreements, Part 2 (see Pages 1-2) indicating: (a) whether the contractor is an MBE or WBE, or qualified joint venture; (b) the percentage of work it intends to award to direct subcontractors; (c) in cases where the contractor intends to award direct subcontracts, a description of the type and dollar value of work designated for participation by MBEs and/or WBEs, and the time frames in which such work is scheduled to begin and end; as well as the name, addresses, and telephone numbers of the M/WBE subcontractors if required by the solicitation; and (d) the prospective contractor's required certification and affirmations. The contractor must engage in good faith efforts to meet the Participation Goals as established for the Task Order unless Agency has granted the contractor a pre-award waiver of the Participation Goals in accordance with Section 6-129 and Part A, Section 10 below.

C. THE BIDDER/PROPOSER MUST COMPLETE THE SCHEDULE B INCLUDED HEREIN (SCHEDULE B, PART 2). A SCHEDULE B SUBMITTED BY THE BIDDER/PROPOSER WHICH DOES NOT INCLUDE THE VENDOR CERTIFICATION AND REQUIRED AFFIRMATIONS WILL BE DEEMED TO BE NON-RESPONSIVE, UNLESS A FULL WAIVER OF THE PARTICIPATION GOALS IS GRANTED (SCHEDULE B, PART 3). IN THE EVENT THAT THE CITY DETERMINES THAT THE BIDDER/PROPOSER HAS SUBMITTED A SCHEDULE B WHERE THE VENDOR CERTIFICATION AND REQUIRED AFFIRMATIONS ARE COMPLETED BUT OTHER ASPECTS OF THE SCHEDULE B ARE NOT COMPLETE, OR CONTAIN A COPY OR COMPUTATION ERROR THAT IS AT ODDS WITH THE VENDOR CERTIFICATION AND AFFIRMATIONS, THE BIDDER/PROPOSER WILL BE NOTIFIED BY THE AGENCY AND WILL BE GIVEN FOUR (4) CALENDAR DAYS FROM RECEIPT OF NOTIFICATION TO CURE THE SPECIFIED DEFICIENCIES AND RETURN A COMPLETED SCHEDULE B TO THE AGENCY. FAILURE TO DO SO WILL RESULT IN A DETERMINATION THAT THE BID/PROPOSAL IS NON-RESPONSIVE. RECEIPT OF NOTIFICATION IS DEFINED AS THE DATE NOTICE IS E-MAILED OR FAXED (IF THE BIDDER/PROPOSER HAS PROVIDED AN E-MAIL ADDRESS OR FAX NUMBER), OR NO LATER THAN FIVE (5) CALENDAR DAYS FROM THE DATE OF MAILING OR UPON DELIVERY, IF DELIVERED.

5. Where an M/WBE Utilization Plan has been submitted, the Contractor shall, within 30 days of issuance by Agency of a notice to proceed, submit a list of proposed persons or entities to which it intends to award subcontracts within the subsequent 12 months. In the case of multi- year contracts, such list shall also be submitted every year thereafter. The Agency may also require the Contractor to report periodically about the contracts awarded by its direct subcontractors to indirect subcontractors (as defined in Section 6-129(c)(22)). PLEASE NOTE: If this Contract is a public works project subject to GML §101(5) (i.e., a contract valued at or below $3M for projects in New York City) or if the Contract is subject to a project labor agreement in accordance with Labor Law §222, and the bidder is required to identify at the time of bid submission its intended subcontractors for the Wicks trades (plumbing and gas fitting; steam heating, hot water heating, ventilating and air conditioning (HVAC); and electric wiring), the Contractor must identify all those to which it intends to award construction subcontracts for any portion of the Wicks trade work at the time of bid submission, regardless of what point in the life of the contract such subcontracts will occur. In identifying intended subcontractors in the bid submission, bidders may satisfy any Participation Goals established for this Contract by proposing one or more subcontractors that are MBEs and/or WBEs for any portion of the Wicks trade work. In the event that the Contractor's selection of a subcontractor is disapproved, the Contractor shall have a reasonable time to propose alternate subcontractors.

6. MBE and WBE firms must be certified by DSBS in order for the Contractor to credit such firms' participation toward the attainment of the Participation Goals. Such certification must occur prior to the firms' commencement of work. A list of city-certified MBE and WBE firms may be obtained from the DSBS website at www.nyc.gov/buycertified, by emailing DSBS at buyer@sbs.nyc.gov, by calling (212) 513-6451, or by visiting or writing DSBS at One Liberty Plaza ., New York, New York, 10006, 11th floor. Eligible firms that have not yet

been certified may contact DSBS in order to seek certification by visiting www.nyc.gov/getcertified, emailing MWBE@sbs.nyc.gov, or calling the DSBS certification helpline at (212) 513-6311. A firm that is certified as both an MBE and a WBE may be counted either toward the goal for MBEs or the goal for WBEs, but not both. No credit shall be given for participation by a graduate MBE or graduate WBE, as defined in Section 6-129(c)(20).

7. Where an M/WBE Utilization Plan has been submitted, the Contractor shall, with each voucher for payment, and/or periodically as Agency may require, submit statements, certified under penalty of perjury, which shall include, but not be limited to,: the total amount the Contractor paid to its direct subcontractors, and, where applicable pursuant to Section 6-129(j), the total amount direct subcontractors paid to indirect subcontractors; the names, addresses and contact numbers of each MBE or WBE hired as a subcontractor by the Contractor, and, where applicable, hired by any of the Contractor's direct subcontractors; and the dates and amounts paid to each MBE or WBE. The Contractor shall also submit, along with its voucher for final payment: the total amount it paid to subcontractors, and, where applicable pursuant to Section 6- 129(j), the total amount its direct subcontractors paid directly to their indirect subcontractors; and a final list, certified under penalty of perjury, which shall include the name, address and contact information of each subcontractor that is an MBE or WBE, the work performed by, and the dates and amounts paid to each.

8. If payments made to, or work performed by, MBEs or WBEs are less than the amount specified in the Contractor's M/WBE Utilization Plan, Agency shall take appropriate action, in accordance with Section 6-129 and Article II below, unless the Contractor has obtained a modification of its M/WBE Utilization Plan in accordance with Section 6-129 and Part A, Section 11 below.

9. Where an M/WBE Utilization Plan has been submitted, and the Contractor requests a change order the value of which exceeds the greater of 10 percent of the Contract or Task Order, as applicable, or $500,000, Agency shall review the scope of work for the Contract or Task Order, as applicable, and the scale and types of work involved in the change order, and determine whether the Participation Goals should be modified.

10. Pre-award waiver of the Participation Goals. (a) A bidder or proposer, or contractor with respect to a Task Order, may seek a pre-award full or partial waiver of the Participation Goals in accordance with Section 6-129, which requests that Agency change one or more Participation Goals on the grounds that the Participation Goals are unreasonable in light of the availability of certified firms to perform the services required, or by demonstrating that it has legitimate business reasons for proposing a lower level of subcontracting in its M/WBE Utilization Plan.

(b) To apply for a full or partial waiver of the Participation Goals, a bidder, proposer, or contractor, as applicable, must complete Part 3 of Schedule B **and submit such request no later than seven (7) calendar days prior to the date and time the bids, proposals, or Task Orders are due, in writing by email at MWBEModification@ddc.nyc.gov. Full or partial waiver requests that are received later than seven (7) calendar days prior to the date and time the bids, proposals, or Task Orders are due may be rejected as untimely.** Bidders, proposers, or contractors, as applicable, who have submitted timely requests will receive an Agency response by no later than two (2) calendar days prior to the due date for bids, proposals, or Task Orders; provided, however, that if that date would fall on a weekend or holiday, an Agency response will be provided by close-of-business on the business day before such weekend or holiday date.

(c) If the Agency determines that the Participation Goals are unreasonable in light of the availability of certified firms to perform the services required, it shall revise the solicitation and extend the deadline for bids and proposals, or revise the Task Order, as applicable.

(d) Agency may grant a full or partial waiver of the Participation Goals to a bidder, proposer or contractor, as applicable, who demonstrates—before submission of the bid, proposal or Task Order, as applicable—that it has legitimate business reasons for proposing the level of subcontracting in its M/WBE Utilization Plan. In making its determination, Agency shall consider factors that shall include, but not be limited

to, whether the bidder, proposer or contractor, as applicable, has the capacity and the bona fide intention to perform the Contract without any subcontracting, or to perform the Contract without awarding the amount of subcontracts represented by the Participation Goals. In making such determination, Agency may consider whether the M/WBE Utilization Plan is consistent with past subcontracting practices of the bidder, proposer or contractor, as applicable, whether the bidder, proposer or contractor, as applicable, has made efforts to form a joint venture with a certified firm, and whether the bidder, proposer, or contractor, as applicable, has made good faith efforts to identify other portions of the Contract that it intends to subcontract.

11. Modification of M/WBE Utilization Plan. (a) A Contractor may request a modification of its M/WBE Utilization Plan after award of this Contract. PLEASE NOTE: If this Contract is a public works project subject to GML §101(5) (i.e., a contract valued at or below $3M for projects in New York City) or if the Contract is subject to a project labor agreement in accordance with Labor Law §222, and the bidder is required to identify at the time of bid submission its intended subcontractors for the Wicks trades (plumbing and gas fitting; steam heating, hot water heating, ventilating and air conditioning (HVAC); and electric wiring), the Contractor may request a Modification of its M/WBE Utilization Plan as part of its bid submission. The Agency may grant a request for Modification of a Contractor's M/WBE Utilization Plan if it determines that the Contractor has established, with appropriate documentary and other evidence, that it made reasonable, good faith efforts to meet the Participation Goals. In making such determination, Agency shall consider evidence of the following efforts, as applicable, along with any other relevant factors:

(i) The Contractor advertised opportunities to participate in the Contract, where appropriate, in general circulation media, trade and professional association publications and small business media, and publications of minority and women's business organizations;
(ii) The Contractor provided notice of specific opportunities to participate in the Contract, in a timely manner, to minority and women's business organizations;
(iii) The Contractor sent written notices, by certified mail or facsimile, in a timely manner, to advise MBEs or WBEs that their interest in the Contract was solicited;
(iv) The Contractor made efforts to identify portions of the work that could be substituted for portions originally designated for participation by MBEs and/or WBEs in the M/WBE Utilization Plan, and for which the Contractor claims an inability to retain MBEs or WBEs;
(v) The Contractor held meetings with MBEs and/or WBEs prior to the date their bids or proposals were due, for the purpose of explaining in detail the scope and requirements of the work for which their bids or proposals were solicited;
(vi) The Contractor made efforts to negotiate with MBEs and/or WBEs as relevant to perform specific subcontracts, or act as suppliers or service providers;
(vii) Timely written requests for assistance made by the Contractor to Agency's M/WBE liaison officer and to DSBS;
(viii) Description of how recommendations made by DSBS and Agency were acted upon and an explanation of why action upon such recommendations did not lead to the desired level of participation of MBEs and/or WBEs.

Agency's M/WBE officer shall provide written notice to the Contractor of the determination.

(b) The Agency may modify the Participation Goals when the scope of the work has been changed by the Agency in a manner that affects the scale and types of work that the Contractor indicated in its M/WBE Utilization Plan would be awarded to subcontractors.

12. If the Contractor was required to identify in its bid or proposal the MBEs and/or WBEs they intended to use in connection with the performance of the Contract or Task Order, substitutions to the identified firms may only be made with the approval of the Agency, which shall only be given when the Contractor has proposed to use a firm that would satisfy the Participation Goals to the same extent as the firm previously identified, unless the Agency determines that the Contractor has established, with appropriate documentary and other evidence, that it made reasonable, good faith efforts. In making such determination, the Agency shall require evidence of the

efforts listed in Section 11(a) above, as applicable, along with any other relevant factors.

13. If this Contract is for an indefinite quantity of construction, standard or professional services or is a requirements type contract and the Contractor has submitted an M/WBE Utilization Plan and has committed to subcontract work to MBEs and/or WBEs in order to meet the Participation Goals, the Contractor will not be deemed in violation of the M/WBE Program requirements for this Contract with regard to any work which was intended to be subcontracted to an MBE and/or WBE to the extent that the Agency has determined that such work is not needed.

14. If Participation Goals have been established for this Contract or a Task Order issued pursuant to this Contract, at least once annually during the term of the Contract or Task Order, as applicable, Agency shall review the Contractor's progress toward attainment of its M/WBE Utilization Plan, including but not limited to, by reviewing the percentage of work the Contractor has actually awarded to MBE and/or WBE subcontractors and the payments the Contractor made to such subcontractors.

15. If Participation Goals have been established for this Contract or a Task Order issued pursuant to this Contract, Agency shall evaluate and assess the Contractor's performance in meeting those goals, and such evaluation and assessment shall become part of the Contractor's overall contract performance evaluation.

PART B: MISCELLANEOUS

The Contractor shall take notice that, if this solicitation requires the establishment of a M/WBE Utilization Plan, the resulting contract may be audited by DSBS to determine compliance with Section 6-129. See §6-129(e)(10). Furthermore, such resulting contract may also be examined by the City's Comptroller to assess compliance with the M/WBE Utilization Plan.

1. Pursuant to DSBS rules, construction contracts that include a requirement for a M/WBE Utilization Plan shall not be subject to the law governing Locally Based Enterprises set forth in Section 6-108.1 of the Administrative Code of the City of New York.

2. DSBS is available to assist contractors and potential contractors in determining the availability of MBEs and/or WBEs to participate as subcontractors, and in identifying opportunities that are appropriate for participation by MBEs and/or WBEs in contracts.

3. Prospective contractors are encouraged to enter into qualified joint venture agreements with MBEs and/or WBEs as defined by Section 6-129(c)(30).

4. By submitting a bid or proposal the Contractor hereby acknowledges its understanding of the M/WBE Program requirements set forth herein and the pertinent provisions of Section 6-129, and any rules promulgated thereunder, and if awarded this Contract, the Contractor hereby agrees to comply with the M/WBE Program requirements of this Contract and pertinent provisions of Section 6-129, and any rules promulgated thereunder, all of which shall be deemed to be material terms of this Contract. The Contractor hereby agrees to make all reasonable, good faith efforts to solicit and obtain the participation of MBEs and/or WBEs to meet the required Participation Goals.

ARTICLE II. ENFORCEMENT

1. If Agency determines that a bidder or proposer, as applicable, has, in relation to this procurement, violated Section 6-129 or the DSBS rules promulgated pursuant to Section 6-129, Agency may disqualify such bidder or proposer, as applicable, from competing for this Contract and the Agency may revoke such bidder's or proposer's prequalification status, if applicable.

2. Whenever Agency believes that the Contractor or a subcontractor is not in compliance with Section 6-129

or the DSBS rules promulgated pursuant to Section 6-129, or any provision of this Contract that implements Section 6-129, including, but not limited to any M/WBE Utilization Plan, Agency shall send a written notice to the Contractor describing the alleged noncompliance and offering the Contractor an opportunity to be heard. Agency shall then conduct an investigation to determine whether such Contractor or subcontractor is in compliance.

3. In the event that the Contractor has been found to have violated Section 6-129, the DSBS rules promulgated pursuant to Section 6-129, or any provision of this Contract that implements Section 6-129, including, but not limited to, any M/WBE Utilization Plan, Agency may determine that one of the following actions should be taken:

(a) entering into an agreement with the Contractor allowing the Contractor to cure the violation;
(b) revoking the Contractor's pre-qualification to bid or make proposals for future contracts;
(c) making a finding that the Contractor is in default of the Contract;
(d) terminating the Contract;
(e) declaring the Contractor to be in breach of Contract;
(f) withholding payment or reimbursement;
(g) determining not to renew the Contract;
(h) assessing actual and consequential damages;
(i) assessing liquidated damages or reducing fees, provided that liquidated damages may be based on amounts representing costs of delays in carrying out the purposes of the M/WBE Program, or in meeting the purposes of the Contract, the costs of meeting utilization goals through additional procurements, the administrative costs of investigation and enforcement, or other factors set forth in the Contract;
(j) exercising rights under the Contract to procure goods, services or construction from another contractor and charge the cost of such contract to the Contractor that has been found to be in noncompliance; or
(k) taking any other appropriate remedy.

4. If an M/WBE Utilization Plan has been submitted, and pursuant to this Article II, Section 3, the Contractor has been found to have failed to fulfill its Participation Goals contained in its M/WBE Utilization Plan or the Participation Goals as modified by Agency pursuant to Article I, Part A, Section 11, Agency may assess liquidated damages in the amount of ten percent (10%) of the difference between the dollar amount of work required to be awarded to MBE and/or WBE firms to meet the Participation Goals and the dollar amount the Contractor actually awarded and paid, and/or credited, to MBE and/or WBE firms. In view of the difficulty of accurately ascertaining the loss which the City will suffer by reason of Contractor’s failure to meet the Participation Goals, the foregoing amount is hereby fixed and agreed as the liquidated damages that the City will suffer by reason of such failure, and not as a penalty. Agency may deduct and retain out of any monies which may become due under this Contract the amount of any such liquidated damages; and in case the amount which may become due under this Contract shall be less than the amount of liquidated damages suffered by the City, the Contractor shall be liable to pay the difference.

5. Whenever Agency has reason to believe that an MBE and/or WBE is not qualified for certification, or is participating in a contract in a manner that does not serve a commercially useful function (as defined in Section 6-129(c)(8)), or has violated any provision of Section 6- 129, Agency shall notify the Commissioner of DSBS who shall determine whether the certification of such business enterprise should be revoked.

6. Statements made in any instrument submitted to Agency pursuant to Section 6-129 shall be submitted under penalty of perjury and any false or misleading statement or omission shall be grounds for the application of any applicable criminal and/or civil penalties for perjury. The making of a false or fraudulent statement by an MBE and/or WBE in any instrument submitted pursuant to Section 6-129 shall, in addition, be grounds for revocation of its certification.

7. The Contractor's record in implementing its M/WBE Utilization Plan shall be a factor in the evaluation of

its performance. Whenever Agency determines that a Contractor's compliance with an M/WBE Utilization Plan has been unsatisfactory, Agency shall, after consultation with the City Chief Procurement Officer, file an advice of caution form for inclusion in PASSPort as caution data.

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CONTRACT SIGNATURE PAGE

This Contract is entered by and between the City of New York ("City"), acting by and through the **DEPARTMENT OF DESIGN AND CONSTRUCTION**, and **PERFETTO CONTRACTING CORP** ("Contractor").

This Contract consists of this contract signature page as well as the following documents ("Contract Documents") which are located in the Documents tab of the PASSPort record titled **85025B0025-SANDRDHK**.

1. 01_General - R7 Add 7 - Jan 24 2025 7:46PM
2. 02_General Details - R7 Add 7 - Jan 24 2025 7:46PM
3. 03_Typical Sections - R7 Add 7 - Jan 24 2025 7:46PM
4. 04_Erosion and Sediment Control Add. 4 - May 29 2025 5:09PM
5. 05_Existing Conditions and Removals - Nov 7 2024 2:28PM
6. 06_Highway Construction Plans- R6 Add 7 - Jan 24 2025 7:46PM
7. 07_Highway Construction Profiles - R5 Add 6 - Jan 22 2025 8:32PM
8. 08_Site Plans and Details - R7 Add 7 - Jan 24 2025 7:46PM
9. 09_Structural - R7 Add R7. - May 29 2025 4:41PM
10. 10_Deployables-R5 Add 7 - Jan 24 2025 7:46PM
11. 11_Utility Plans - R7 Add 7 - Jan 24 2025 7:49PM
12. 12_Utility Profiles - R6 Add 7 - Jan 24 2025 7:48PM
13. 13_Utility Sections - R6 Add 7 - Jan 24 2025 7:48PM
14. 14_Signing and Striping - R7 Add R7. - May 29 2025 4:41PM
15. 15_Traffic Signal Plans - Nov 7 2024 2:50PM
16. 16_Street Lighting Plans-R3 Add 5 - Jan 3 2025 8:36PM
17. 17_FDNY - R7 Add 7 - Jan 24 2025 7:48PM
18. 18_Tree Mitigation Plan - Nov 7 2024 2:50PM
19. 19_Tree Planting Plans-R5 Add 6 - Jan 22 2025 8:35PM
20. 20_Green Infrastructure Plans-R4 Add 6 - Jan 22 2025 8:35PM
21. 21_Urban Design Plans - R7 Add 7 - Jan 24 2025 7:49PM
22. 22_Landscape Design Plans - R6 Add 7 - Jan 24 2025 7:49PM
23. 23_Electrical Power Plans-R3 Add 5 - Jan 3 2025 8:36PM
24. 24_Maintenance and Protection of Traffic Plans - Nov 7 2024 2:54PM
25. 25_Boring Plans - Nov 7 2024 2:54PM
26. 26_Joint Bid - Nov 7 2024 2:55PM
27. Bid Bond - SANDRDHK(3) - May 29 2025 4:32PM
28. BID BOND FORM 2021-03 - Oct 4 2024 11:02AM
29. Geotech Data Report Add 7 - Jan 24 2025 4:19PM
30. NYSDOL - Certificate license(1) - May 29 2025 4:34PM
31. Pages Remedial Action Plan Vol 2 (Part7b) Add7 - Jan 24 2025 4:04PM
32. Pre-Bid Conference Attendance List Add. 2 - May 29 2025 5:10PM
33. Pre-Bid Conference Presentation Add. 2 - May 29 2025 5:10PM
34. Proposal_Bid_85025B0025001.pdf - May 29 2025 1:44PM
35. Qualification Form(1) - May 29 2025 4:36PM
36. Remedial Action Plan Vol 2 (Part3) Add 7 - Jan 24 2025 4:05PM
37. Remedial Action Plan Vol 1 (Part4) Add 7 - Jan 24 2025 3:48PM
38. Remedial Action Plan Vol 1 (Part1) Add 7 - Jan 24 2025 3:48PM
39. Remedial Action Plan Vol 1 (Part2) Add 7 - Jan 24 2025 3:48PM
40. Remedial Action Plan Vol 1 (Part3) Add 7 - Jan 24 2025 3:48PM

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41. Remedial Action Plan Vol 2 (Part1) Add 7 - Jan 24 2025 4:05PM
42. Remedial Action Plan Vol 2 (Part4) Add 7 - Jan 24 2025 4:05PM
43. Remedial Action Plan Vol 2 (Part5) Add 7 - Jan 24 2025 4:05PM
44. Remedial Action Plan Vol 2 (Part6) Add 7 - Jan 24 2025 4:05PM
45. Remedial Action Plan Vol 2 (Part7) Add 7 - Jan 24 2025 4:05PM
46. Remedial Action Plan Vol 2 (Part8) Add 7 - Jan 24 2025 4:05PM
47. Remedial Action Plan Vol 2 (Part9) Add 7 - Jan 24 2025 4:05PM
48. Remedial Action Plan Vol 2 (Part2) Add 7 - Jan 24 2025 4:05PM
49. RFx Document_85025B0025001 (1).pdf - May 29 2025 1:44PM
50. SANDRDHK Addendum 1 - Nov 21 2024 7:29PM
51. SANDRDHK Addendum 2 - Dec 5 2024 8:54PM
52. SANDRDHK Addendum 3 - Dec 13 2024 9:21PM
53. SANDRDHK Addendum 4 - Dec 20 2024 6:12PM
54. SANDRDHK Addendum 5 - Jan 7 2025 4:09PM
55. SANDRDHK Addendum 6 - Jan 24 2025 2:28PM
56. SANDRDHK Addendum 7 - Jan 28 2025 4:41PM
57. SANDRDHK Addendum 8 - Jan 29 2025 3:59PM
58. SANDRDHK Brokers Certification - Jun 12 2025 2:05PM
59. SANDRDHK Disability Insurance - Jun 12 2025 2:04PM
60. SANDRDHK Insurance Certificates - Jun 12 2025 2:05PM
61. SANDRDHK JB5 Bid Schedule Addendum7 - May 29 2025 4:37PM
62. SANDRDHK Performance and Payment Bonds - Jun 12 2025 2:06PM
63. SANDRDHK Plan Holders List Addendum 2 - Dec 4 2024 6:39PM
64. SANDRDHK SER Requirements (Infra)_2024-10-09 - May 29 2025 4:30PM
65. SANDRDHK Volume 2 Addendum 5 - Jan 6 2025 8:41PM
66. SANDRDHK Volume 3 Add 7 - Jan 27 2025 9:36PM
67. SANDRDHK Workers Compensation - Jun 12 2025 2:02PM
68. SANDRDHK_Perfetto Contracting Corp_Bid Schedule - May 29 2025 2:48PM
69. V1 Infra Bid Booklet PASSPort 2024-07 - Oct 4 2024 10:30AM

The above order does not represent an order of precedence. The Contract shall be governed by the order of precedence, if any, in the Contract Documents or by ordinary contract principles if no such order of precedence exists.

Each party is signing this Contract electronically on the date stated in that party's electronic signature.

The City of New York
By: **DEPARTMENT OF DESIGN AND CONSTRUCTION**

DocuSigned by:
ERIC MACFARLANE
1A87ABA0188B41C...
(Signature)

Name: ERIC MACFARLANE

Title: First Deputy Commissioner

Date: 6/16/2025 | 17:29:36 PDT

Contractor
By: **PERFETTO CONTRACTING CORP**

DocuSigned by:
5D2B7D7C867E4CE...

Docusign Envelope ID: 657AF8E3-A4A8-418E-AF1D-7E04DD65AD66

(Signature)

Name: Chez Perfetto

Title: President

Date: 6/16/2025 | 10:49:31 PDT

Docusign Envelope ID: 657AF8E3-A4A8-418E-AF1D-7E04DD65AD66

Signatures

Number of pages (including this one): 4

- ✓ Document signed electronically, the signatories agreeing that it is authentic between them.
- ✓ By signing this document, the signatories acknowledge and agree that they have carefully read this document and approve all its terms.

Nom: Perfetto Chez
Fonction: COO

Place: 152 41st St Brooklyn NY 11232
Date: 6/16/2025 | 10:49:31 PDT
DocuSigned by:
5D2B7D7C867E4CE...

Nom: Macfarlane Eric
Fonction:

Place: lic ny
Date: 6/16/2025 | 17:29:36 PDT
DocuSigned by:
ERIC MACFARLANE
1A87ABA0188B41C...

PERFORMANCE BOND #1

Performance Bond #1 (4 Pages): Use if the total contract price is $5 Million Or Less. Performance Bond #1 has been approved by the U.S. Small Business Administration ("SBA")for participation in its Bond Guarantee Program.

PERFORMANCE BOND #1 (Page 1)

KNOW ALL PERSONS BY THESE PRESENTS:,
That we, _____

_____

_____

hereinafter referred to as the "Principal,"
and, _____

_____

_____

hereinafter referred to as the "Surety" ("Sureties") are held and firmly bound to THE CITY OF NEW YORK, hereinafter referred to as the "City" or to its successors and assigns in the penal sum of _____

_____

_____

($_____) Dollars, lawful money of the United States for the payment of whichsaid sum of money well and truly to be made, we, and each of us, bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal is about to enter, or has entered, into a Contract in writing with the City for

_____

_____

a copy of which Contract is annexed to and hereby made a part of this bond as though herein set forth infull;

NOW, THEREFORE, the conditions of this obligation are such that if the Principal, his or its representatives or assigns, shall well and faithfully perform the said Contract and all modifications, amendments, additions and alterations thereto that may hereafter be made, according to its terms and its true intent and meaning, including repair and or replacement of defective work and guarantees of maintenance for the periods stated in the Contract, and shall fully indemnify and save harmless the City from all cost and damage which it may suffer by reason of the Principal's default of the Contract, and shall fully reimburse and repay the City for all outlay and expense which the City may incur in making good any such default and shall protect the said City of New York against, and pay any and all amounts, damages, cost and judgments which may or shall be recovered against said City or its officers or agents or which the said City of New York may be called upon to pay any person or corporation by reason of any damages arising or growing out of the Principal's default of the Contract, then this obligation shall be nulland void, otherwise to remain in full force and effect.

The Surety (Sureties), for value received, hereby stipulates and agrees, upon written notice from the Citythat the City has determined that the Principal is in default of the Contract, to (1) pay the City the cost tocomplete the contract as determined by the City in excess of the balance of the Contract held by the City, plus any damages or costs to which the City is entitled, up to the full amount of the above penal sum, (2)fully perform and complete the Work to be performed under the Contract, pursuant to the terms, conditions, and covenants thereof, or (3) tender a completion Contractor that is acceptable to the City. The Surety (Sureties) further agrees, at its option, either to notify the City that it elects to pay the city thecost of completion plus any applicable damages and costs under option (1) above, or to commence anddiligently perform the Work specified in the Contract, including physical site work, within twenty-five
(25) business days after written notice thereof from the City and, if the Surety elects to fully perform and complete the Work, then to complete all Work within the time set forth in the Contract or such other timeas agreed to between the City and Surety in accordance with the Contract. If the Surety elects to tender payment pursuant to (1) above, then the Surety shall tender such amount within fifteen (15) business days notification from the City of the cost of completion. The Surety and the City reserve all rights and defenses each may have against the other; provided, however, that the Surety expressly agrees that its reservation of rights shall not provide a basis for non-performance of its obligation to pay the City the costof completion, to commence and complete all Work as provided herein, or to tender a completion contractor.

The Surety (Sureties), for value received, for itself and its successors and assigns, hereby stipulates and agrees that the obligation of said Surety (Sureties) and its bond shall be in no way impaired or affected byany extension of time, modification, omission, addition, or change in or to the said Contract or the Workto be performed thereunder, or by any payment thereunder before the time required therein, or by any waiver of any provisions thereof, or any moneys due or to become due thereunder; and said Surety (Sureties) does hereby waive notice of any and all of such extensions, modifications, omissions, additions,changes, payments, and waivers, and hereby expressly stipulates and agrees that any and all things doneand omitted to be done by and in relation to subcontractors shall have the same effect as to said Surety (Sureties) as though done or omitted to be done by or in relation to said Principal. Notwithstanding the above, if the City makes payments to the Principal before the time required by the contract that in the aggregate exceed $100,000 or 10% of the Contract price, whichever is less, and that have not become earned prior to the Principal being found to be in default, then all payments made to the Principal before the time required by the Contract shall be added to the remaining contract value available to be paid forthe completion of the Contract as if such sums had not been paid to the Principal, but shall not provide abasis for non-performance of its obligation to pay the City the cost of completion, to commence and to complete all Work as provided herein, or to tender a completion contractor.

IN WITNESS WHEREOF, The Principal and the Surety (Sureties) have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereunto affixed and these presents to be signed by their proper officers, this

_____ day of _____, 20_____.(Seal)

_____(L.S.)
Principal

(Seal)

By: _____.

Surety

By: _____.
_____.
(Seal) Surety

By: _____.
_____.
(Seal) Surety

By: _____.
_____.
(Seal) Surety

By: _____.
_____.
(Seal) Surety

By: _____.

Bond Premium Rate _____.

Bond Premium Cost _____.

If the Contractor (Principal) is a partnership, the bond should be signed by each of the individuals who are partners.

If the Contractor (Principal) is a corporation, the bond should be signed in its correct corporate name by aduly authorized officer, agent, or attorney-in-fact.

There should be executed an appropriate number of counterparts of the bond corresponding to the numberof counterparts of the Contract.

ACKNOWLEDGMENT OF PRINCIPAL IF A CORPORATION

State of_____ County of_____ ss:

On this_____ day of_____, 20_____ before me personally came_____,
to me known, who, being by me duly sworn did depose and say that he/she resides at _____; that he/she is the _____ of the corporation described in and which executed the foregoing instrument; and that he/she signed his/her name to the foregoing instrument by order of the directors of said corporation as the duly authorized and binding act thereof.

_____
Notary Public or Commissioner of Deeds.

ACKNOWLEDGMENT OF PRINCIPAL IF A PARTNERSHIP

State of_____ County of_____ ss:

On this_____ day of_____, 20_____ before me personally came_____,
to me known, who, being by me duly sworn did dispose and say that he/she resides at _____; that he/she is_____ partner of _____, a limited/general partnership existing under the laws of the State of _____, the partnership described in and which executed the foregoing instrument; and that he/she signed his/her name to the foregoing instrument as the duly authorized and binding act of said partnership.

_____
Notary Public or Commissioner of Deeds.

ACKNOWLEDGMENT OF PRINCIPAL IF AN INDIVIDUAL

State of_____ County of_____ ss:

On this_____ day of_____, 20_____ before me personally came_____,
to me known, who, being by me duly sworn did depose and say that he/she resides at _____, and that he/she is the individual whose name is subscribed to the within instrument and acknowledged to me that by his/her signature on the instrument, said individual executed the instrument.

_____
Notary Public or Commissioner of Deeds

Each executed bond should be accompanied by: (a) appropriate acknowledgments of the respective parties; (b) appropriate duly certified copy of Power of Attorney or other certificate of authority where bond is executed by agent, officer or other representative of Principal or Surety; (c) a duly certified extract from By-Laws or resolutions of Surety under which Power of Attorney or other certificate of authority of its agent, officer or representative was issued, and (d) certified copy of latest published financial statement of assets and liabilities of Surety.

* * * * * * * *

Affix Acknowledgments and Justification of Sureties.

Bond No. PRF9458200

Performance Bond #2 (Pages 104 to 107): Use if the total contract price is more than $5 Million.

PERFORMANCE BOND #2

KNOW ALL PERSONS BY THESE PRESENTS:,
That we, PERFETTO CONTRACTING CO., INC.

152 41st Street, BROOKLYN, NY 11232

hereinafter referred to as the "Principal,"
and, Fidelity and Deposit Company of Maryland and Zurich American Insurance Company

hereinafter referred to as the "Surety" ("Sureties") are held and firmly bound to THE CITY OF NEW YORK, hereinafter referred to as the "City" or to its successors and assigns in the penal sum of One Hundred Fifty Seven Million Six Hundred Seventy Eight Thousand Two Hundred Forty Three Dollars and 40/100

($ 157,678,243.40) Dollars, lawful money of the United States for the payment of which said sum of money well and truly to be made, we, and each of us, bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal is about to enter, or has entered, into a Contract in writing with the City for SANDRDHK; Red Hook Coastal Resiliency (RHCR) Atlantic Basin & Beard Street, Borough of Brooklyn, NY

a copy of which Contract is annexed to and hereby made a part of this bond as though herein set forth in full;

NOW, THEREFORE, the conditions of this obligation are such that if the Principal, his or its representatives or assigns, shall well and faithfully perform the said Contract and all modifications, amendments, additions and alterations thereto that may hereafter be made, according to its terms and its true intent and meaning, including repair and or replacement of defective work and guarantees of maintenance for the periods stated in the Contract, and shall fully indemnify and save harmless the City from all cost and damage which it may suffer by reason of the Principal's default of the Contract, and shall fully reimburse and repay the City for all outlay and expense which the City may incur in making

Performance Bond #2 (Pages 104 to 107): Use if the total contract price is more than $5 Million.

good any such default and shall protect the said City of New York against, and pay any and all amounts, damages, cost and judgments which may or shall be recovered against said City or its officers or agents or which the said City of New York may be called upon to pay any person or corporation by reason of any damages arising or growing out of the Principal's default of the Contract, then this obligation shall be null and void, otherwise to remain in full force and effect.

The Surety (Sureties), for value received, hereby stipulates and agrees, upon written notice from the City that the City has determined that the Principal is in default of the Contract, to either (1) pay the full amount of the above penal sum in complete discharge and exoneration of this bond and of all the liabilities of the Surety relating to this bond, or (2) fully perform and complete the Work to be performed under the Contract, pursuant to the terms, conditions, and covenants thereof. The Surety (Sureties) further agrees, at its option, either to tender the penal sum or to commence and diligently perform the Work specified in the Contract, including physical site work, within twenty-five (25) business days after written notice thereof from the City and to complete all Work within the time set forth in the Contract or such other time as agreed to between the City and Surety in accordance with the Contract. The Surety and the City reserve all rights and defenses each may have against the other; provided, however, that the Surety expressly agrees that its reservation of rights shall not provide a basis for non-performance of its obligation to commence and to complete all Work as provided herein.

The Surety (Sureties), for value received, for itself and its successors and assigns, hereby stipulates and agrees that the obligation of said Surety (Sureties) and its bond shall be in no way impaired or affected by any extension of time, modification, omission, addition, or change in or to the said Contract or the Work to be performed thereunder, or by any payment thereunder before the time required therein, or by any waiver of any provisions thereof, or by any assignment, subletting or other transfer thereof or of any Work to be performed or any moneys due or to become due thereunder; and said Surety (Sureties) does hereby waive notice of any and all of such extensions, modifications, omissions, additions, changes, payments, waivers, assignments, subcontracts and transfers, and hereby expressly stipulates and agrees that any and all things done and omitted to be done by and in relation to assignees, subcontractors, and other transferees shall have the same effect as to said Surety (Sureties) as though done or omitted to be done by or in relation to said Principal.

Performance Bond #2 (Pages 104 to 107): Use if the total contract price is more than $5 Million.

IN WITNESS WHEREOF, The Principal and the Surety (Sureties) have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereunto affixed and these presents to be signed by their proper officers, this 29th day of May, 2025.

(Seal)

PERFETTO CONTRACTING CO., INC. (L.S.)
Principal

By: _____

(Seal)

Fidelity and Deposit Company of Maryland and Zurich American Insurance Company
Surety

By: _____
William D Haas, Attorney-in-Fact

(Seal)

_____
Surety

By: _____

(Seal)

_____
Surety

By: _____

(Seal)

_____
Surety

By: _____

(Seal)

_____
Surety

By: _____

Bond Premium Rate VAR.

Bond Premium Cost $851,372.

If the Contractor (Principal) is a partnership, the bond should be signed by each of the individuals who are partners.

If the Contractor (Principal) is a corporation, the bond should be signed in its correct corporate name by a duly authorized officer, agent, or attorney-in-fact.

There should be executed an appropriate number of counterparts of the bond corresponding to the number of counterparts of the Contract.

Performance Bond #2 (Pages 104 to 107): Use if the total contract price is more than $5 Million.

ACKNOWLEDGMENT OF PRINCIPAL IF A CORPORATION

State of New York County of Kings ss:

On this 29th day of May, 2025 before me personally came Cesare Perfetto,
to me known, who,.being by me duly sworn did depose and say that he/~~she~~ resides
at Staten Island, N.Y.
; that he/~~she~~ is the CEO
of the corporation described in and which executed the foregoing instrument; and that he/she signed his/her name to the foregoing instrument by order of the directors of said corporation as the duly authorized and binding act thereof.

Theresa A Ciccarelli
Notary Public or Commissioner of Deeds

THERESA A. CICCARELLI
Notary Public - State of New York
No. 01C16372597
Qualified in Kings County
My Comm. Expires Mar. 26, 2026

ACKNOWLEDGMENT OF PRINCIPAL IF A PARTNERSHIP

State of _____ County of _____ ss:

On this _____ day of _____, _____ before me personally came _____,
to me known, who,.being by me duly sworn did depose and say that he/she resides
at _____
_____; that he/she is _____ partner of
_____, a limited/general partnership existing under the laws of the State of
_____, the partnership described in and which executed the foregoing instrument;
and that he/she signed his/her name to the foregoing instrument as the duly authorized and binding act of said partnership.

_____
Notary Public or Commissioner of Deeds

ACKNOWLEDGMENT OF PRINCIPAL IF AN INDIVIDUAL

State of _____ County of _____ ss:

On this _____ day of _____, _____ before me personally came _____,
to me known, who,.being by me duly sworn did depose and say that he/she resides
at _____
_____, and that he/she is the individual whose name is subscribed to the within instrument and acknowledged to me that by his/her signature on the instrument, said individual executed the instrument.

_____
Notary Public or Commissioner of Deeds

Each executed bond should be accompanied by: (a) appropriate acknowledgments of the respective parties; (b) appropriate duly certified copy of Power of Attorney or other certificate of authority where bond is executed by agent, officer or other representative of Principal or Surety; (c) a duly certified extract from By-Laws or resolutions of Surety under which Power of Attorney or other certificate of authority of its agent, officer or representative was issued, and (d) certified copy of latest published financial statement of assets and liabilities of Surety.

* * * * * * * *

Affix Acknowledgments and Justification of Sureties.

Individual Acknowledgment

State of _____

County of_____

On this _____day of_____, 20____, before me personally came _____to me known, and known to me to be the individual in and who executed the foregoing instrument, and acknowledged to me that he/she executed the same.

My commission expires_____ _____

Notary Public

Corporation Acknowledgment

State of New York
County of Kings

On the 29th day of May, 2025 before me personally came Cesare Perfetto to me known; who being by me duly sworn, did depose and say that he/~~she~~/~~they~~ reside(s) in Staten Island, New York that he/~~she~~/~~they~~ is (are) the CEO of the Perfetto Contracting Co., Inc, the corporation described in and which executed the above instrument; that he/she/they know(s) the seal of said corporation; that the seal affixed to said instrument is such corporate seal; that it was so affixed by authority of the board of directors of said corporation, and that he/she/they signed his/her/their name(s) thereto by like authority.

THERESA A. CICCARELLI
Notary Public - State of New York
No. 01C16372597
Qualified In Kings County
My Comm. Expires Mar. 26, 2026

My commission expires 03-26-26 Theresa A Ciccarelli

Notary Public

Surety Acknowledgment

State of **New York**

County of **Westchester**

On the 29th day of **May, 2025** personally came William D. Haas to me known , who being by me duly sworn did depose and say that he/she is an Attorney-in-Fact of Fidelity and Deposit Company of Maryland and Zurich American Insurance Company and which executed the above Instrument know(s) the corporate seal of said corporation; that the seal affixed to the within instrument is such corporate seal, and that he/she/they signed the said instrument and affixed the said seal as Attorney-in-fact by authority of the Board of Directors of said corporation and by authority of this office under the standing resolution thereof.

MAUREEN A KITTRICK
NOTARY PUBLIC STATE OF NEW YORK
LIC. #01KI4986881
COMMISSION EXPIRES 09/30/2025

My commission expires _____ Maureen A Kittrick

Notary Public

ZURICH AMERICAN INSURANCE COMPANY
COLONIAL AMERICAN CASUALTY AND SURETY COMPANY
FIDELITY AND DEPOSIT COMPANY OF MARYLAND
POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS: That the ZURICH AMERICAN INSURANCE COMPANY, a corporation of the State of New York, the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, a corporation of the State of Illinois, and the FIDELITY AND DEPOSIT COMPANY OF MARYLAND a corporation of the State of Illinois (herein collectively called the "Companies"), by Christopher Nolan, Vice President, in pursuance of authority granted by Article V, Section 8, of the By-Laws of said Companies, which are set forth on the reverse side hereof and are hereby certified to be in full force and effect on the date hereof, do hereby nominate, constitute, and appoint **William D. HAAS, Benedict J. TOCKARSHEWSKY, Marnie GINSBURG, Mary L. PADILLA of White Plains, New York,** its true and lawful agent and Attorney-in-Fact, to make, execute, seal and deliver, for, and on its behalf as surety, and as its act and deed: **any and all bonds and undertakings,** and the execution of such bonds or undertakings in pursuance of these presents, shall be as binding upon said Companies, as fully and amply, to all intents and purposes, as if they had been duly executed and acknowledged by the regularly elected officers of the ZURICH AMERICAN INSURANCE COMPANY at its office in New York, New York., the regularly elected officers of the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY at its office in Owings Mills, Maryland., and the regularly elected officers of the FIDELITY AND DEPOSIT COMPANY OF MARYLAND at its office in Owings Mills, Maryland., in their own proper persons.

The said Vice President does hereby certify that the extract set forth on the reverse side hereof is a true copy of Article V, Section 8, of the By-Laws of said Companies, and is now in force.

IN WITNESS WHEREOF, the said Vice-President has hereunto subscribed his/her names and affixed the Corporate Seals of the said **ZURICH AMERICAN INSURANCE COMPANY, COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, and FIDELITY AND DEPOSIT COMPANY OF MARYLAND,** this 29th day of January, A.D. 2025.

ATTEST:
ZURICH AMERICAN INSURANCE COMPANY
COLONIAL AMERICAN CASUALTY AND SURETY COMPANY
FIDELITY AND DEPOSIT COMPANY OF MARYLAND

By: Christopher Nolan
Vice President

By: Dawn E. Brown
Secretary

State of Maryland
County of Baltimore

On this 29th day of January, A.D. 2025, before the subscriber, a Notary Public of the State of Maryland, duly commissioned and qualified, **Christopher Nolan, Vice President and Dawn E. Brown, Secretary** of the Companies, to me personally known to be the individuals and officers described in and who executed the preceding instrument, and acknowledged the execution of same, and being by me duly sworn, deposeth and saith, that he/she is the said officer of the Company aforesaid, and that the seals affixed to the preceding instrument are the Corporate Seals of said Companies, and that the said Corporate Seals and the signature as such officer were duly affixed and subscribed to the said instrument by the authority and direction of the said Corporations.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my Official Seal the day and year first above written.

Genevieve M. Maison
Notary Public
My Commission Expire January 27, 2029

EXTRACT FROM BY-LAWS OF THE COMPANIES

Authenticity of this bond can be confirmed at bondvalidator.zurichna.com or 410-559-8790

"Article V, Section 8, Attorneys-in-Fact. The Chief Executive Officer, the President, or any Executive Vice President or Vice President may, by written instrument under the attested corporate seal, appoint attorneys-in-fact with authority to execute bonds, policies, recognizances, stipulations, undertakings, or other like instruments on behalf of the Company, and may authorize any officer or any such attorney-in-fact to affix the corporate seal thereto; and may with or without cause modify of revoke any such appointment or authority at any time."

CERTIFICATE

I, the undersigned, Vice President of the ZURICH AMERICAN INSURANCE COMPANY, the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, and the FIDELITY AND DEPOSIT COMPANY OF MARYLAND, do hereby certify that the foregoing Power of Attorney is still in full force and effect on the date of this certificate; and I do further certify that Article V, Section 8, of the By-Laws of the Companies is still in force.

This Power of Attorney and Certificate may be signed by facsimile under and by authority of the following resolution of the Board of Directors of the ZURICH AMERICAN INSURANCE COMPANY at a meeting duly called and held on the 15th day of December 1998.

RESOLVED: "That the signature of the President or a Vice President and the attesting signature of a Secretary or an Assistant Secretary and the Seal of the Company may be affixed by facsimile on any Power of Attorney...Any such Power or any certificate thereof bearing such facsimile signature and seal shall be valid and binding on the Company."

This Power of Attorney and Certificate may be signed by facsimile under and by authority of the following resolution of the Board of Directors of the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY at a meeting duly called and held on the 5th day of May, 1994, and the following resolution of the Board of Directors of the FIDELITY AND DEPOSIT COMPANY OF MARYLAND at a meeting duly called and held on the 10th day of May, 1990.

RESOLVED: "That the facsimile or mechanically reproduced seal of the company and facsimile or mechanically reproduced signature of any Vice-President, Secretary, or Assistant Secretary of the Company, whether made heretofore or hereafter, wherever appearing upon a certified copy of any power of attorney issued by the Company, shall be valid and binding upon the Company with the same force and effect as though manually affixed.

IN TESTIMONY WHEREOF, I have hereunto subscribed my name and affixed the corporate seals of the said Companies, this 29th day of May, 2025.



MJ Pethick

Mary Jean Pethick
Vice President

TO REPORT A CLAIM WITH REGARD TO A SURETY BOND, PLEASE SUBMIT A COMPLETE DESCRIPTION OF THE CLAIM INCLUDING THE PRINCIPAL ON THE BOND, THE BOND NUMBER, AND YOUR CONTACT INFORMATION TO:

Zurich Surety Claims
1299 Zurich Way
Schaumburg, IL 60196-1056
reportsfclaims@zurichna.com
800-626-4577

Authenticity of this bond can be confirmed at bondvalidator.zurichna.com or 410-559-8790

THE FIDELITY AND DEPOSIT COMPANY

OF MARYLAND
1299 Zurich Way Schaumburg, IL 60196

Statement of Financial Condition
As Of December 31, 2024

ASSETS

Bonds		$ 181,162,758
Stocks		18,212,825
Cash and Short-Term Investments		2,411,982
Reinsurance Recoverable		20,361,515
Federal Income Tax Recoverable		10,150
Other Accounts Receivable		26,284,837
TOTAL ADMITTED ASSETS		$ 248,444,067

LIABILITIES, SURPLUS AND OTHER FUNDS

Reserve for Taxes and Expenses		$ 103,295
Ceded Reinsurance Premiums Payable		45,005,200
Remittances and Items Unallocated		0
Payable to parents, subs and affiliates		0
Securities Lending Collateral Liability		0
TOTAL LIABILITIES		$ 45,108,495
Capital Stock, Paid Up	$ 5,000,000	
Surplus	198,335,572	
Surplus as regards Policyholders		203,335,572
TOTAL		$ 248,444,067

Securities carried at $78,636,217 in the above statement are deposited with various states as required by law.

Securities carried on the basis prescribed by the National Association of Insurance Commissioners. On the basis of market quotations for all bonds and stocks owned, the Company's total admitted assets at December 31, 2024 would be $236,552,538 and surplus as regards policyholders $191,444,043.

I, LAURA J. LAZARCZYK, Corporate Secretary of the FIDELITY AND DEPOSIT COMPANY OF MARYLAND, do hereby certify that the foregoing statement is a correct exhibit of the assets and liabilities of the said Company on the 31st day of December, 2024.

Laura J. Lazarczyk

Corporate Secretary

State of Illinois
City of Schaumburg } SS:

Subscribed and sworn to, before me, a Notary Public of the State of Illinois, in the City of Schaumburg, this 25th day of February, 2025.

Notary Public

Official Seal
KATHERINE R SCHULTZ
Notary Public, State of Illinois
Commission No. 686903
My Commission Expires December 7, 2027

ZURICH AMERICAN INSURANCE COMPANY
COMPARATIVE BALANCE SHEET
4 WORLD TRADE CENTER, 150 GREENWICH STREET, NEW YORK, NY 10007
As of December 31, 2024 and December 31, 2023

	12/31/2024	12/31/2023
Assets		
Bonds	$ 14,585,320,733	$ 14,481,089,748
Preferred Stock	-	-
Common Stock	2,318,962,357	2,484,779,919
Real Estate	1,203,299,515	1,255,336,901
Other Invested Assets	1,557,095,337	1,412,632,427
Derivatives	9,084,392	120,622
Short-term Investments	538,419	7,465
Receivable for securities	76,176,280	43,785,484
Cash and cash equivalents	442,486,445	563,619,003
Securities lending reinvested collateral assets	-	-
Employee Trust for Deferred Compensation Plan	172,754,053	165,934,623
Total Cash and Invested Assets	$ 20,365,717,530	$ 20,407,306,192
Premiums Receivable	$ 6,819,954,449	$ 7,250,292,546
Funds Held with Reinsurers	2,283,644	1,266,900
Reinsurance Recoverable	1,502,965,418	1,313,073,816
Accrued Investment Income	129,291,204	128,796,764
Federal Income Tax Recoverable	714,744,916	812,015,054
Due from Affiliates	132,941,409	162,808,448
Other Assets	707,816,920	652,252,690
Total Assets	$ 30,375,715,489	$ 30,727,812,410
Liabilities and Policyholders' Surplus		
Liabilities:		
Loss and LAE Reserves	$ 12,234,708,389	$ 12,024,268,114
Unearned Premium Reserve	4,915,163,970	4,765,091,885
Funds Held with Reinsurers	773,420,047	708,043,842
Loss In Course of Payment	1,483,026,238	2,230,946,834
Commission Reserve	213,774,361	207,235,278
Federal Income Tax Payable	-	-
Remittances and Items Unallocated	243,519,684	335,320,620
Payable to parent, subs and affiliates	388,489,825	550,798,074
Provision for Reinsurance	64,258,573	94,505,406
Ceded Reinsurance Premiums Payable	2,159,392,851	1,822,499,716
Securities Lending Collateral Liability	-	-
Other Liabilities	2,065,429,910	1,910,495,035
Total Liabilities	$ 24,541,183,850	$ 24,649,204,805
Policyholders' Surplus:		
Common Capital Stock	$ 5,000,000	$ 5,000,000
Paid-In and Contributed Surplus	4,393,615,052	4,393,771,330
Surplus Notes	-	-
Special Surplus Funds	3,993,000	4,237,000
Cumulative Unrealized Gain	38,342,087	83,490,440
Unassigned Surplus	1,393,581,502	1,592,108,836
Total Policyholders' Surplus	$ 5,834,531,641	$ 6,078,607,606
Total Liabilities and Policyholders' Surplus	$ 30,375,715,490	$ 30,727,812,410

I, LAURA J. LAZARCZYK, Corporate Secretary of ZURICH AMERICAN INSURANCE COMPANY do hereby certify that the foregoing statement is a correct exhibit of the assets and liabilities of the said Company, on the 31st day of December, 2024, according to the best of my information, knowledge and belief.

Laura J. Lazarczyk

Corporate Secretary

State of Illinois
County of Cook } **SS:**

Subscribed and sworn to, before me, a Notary Public of the State of Illinois, in the City of Schaumburg, this 25th day of February, 2025.

Notary public

Official Seal
KATHERINE R SCHULTZ
Notary Public, State of Illinois
Commission No. 686903
My Commission Expires December 7, 2027

INTERNAL USE ONLY

Bond No. PRF9458200

Payment Bond (Pages 108 to 111): Use for any contract for which a Payment Bond is required.

PAYMENT BOND

KNOW ALL PERSONS BY THESE PRESENTS, That we, PERFETTO CONTRACTING CO., INC. 152 41st Street, BROOKLYN, NY 11232

hereinafter referred to as the "Principal", and Fidelity and Deposit Company of Maryland and Zurich American Insurance Company

hereinafter referred to as the "Surety" ("Sureties") are held and firmly bound to THE CITY OF NEW YORK, hereinafter referred to as the "City" or to its successors and assigns, in the penal sum of

One Hundred Fifty Seven Million Six Hundred Seventy Eight Thousand Two Hundred Forty Three Dollars and 40/100

($157,678,243.40) Dollars, lawful money of the United States, for the payment of which said sum of money well and truly to be made, we, and each of us, bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal is about to enter, or has entered, into a Contract in writing with the City for SANDRDHK; Red Hook Coastal Resiliency (RHCR) Atlantic Basin & Beard Street, Borough of Brooklyn, NY

a copy of which Contract is annexed to and hereby made a part of this bond as though herein set forth in full;

NOW, THEREFORE, the conditions of this obligation are such that if the Principal, his or its representatives or assigns and other Subcontractors to whom Work under this Contract is sublet and his or their successors and assigns shall promptly pay or cause to be paid all lawful claims for

(a) Wages and compensation for labor performed and services rendered by all persons engaged in the prosecution of the Work under said Contract, and any amendment or extension thereof or addition thereto, whether such persons be agents servants or employees of the Principal or any such Subcontractor, including all persons so engaged who perform the work of laborers or mechanics at or in the vicinity of the site

of the Project regardless of any contractual relationship between the Principal or such Subcontractors, or his or their successors or assigns, on the one hand and such laborers or mechanics on the other, but not including office employees not regularly stationed at the site of the project; and

(b) Materials and supplies (whether incorporated in the permanent structure or not), as well as teams, fuels, oils, implements or machinery furnished, used or consumed by said Principal or any subcontractor at or in the vicinity of the site of the Project in the prosecution of the Work under said Contract and any amendment or extension thereof or addition thereto; then this obligation shall be void, otherwise to remain in full force and effect.

This bond is subject to the following additional conditions, limitations and agreements:

(a) The Principal and Surety (Sureties) agree that this bond shall be for the benefit of any materialmen or laborer having a just claim, as well as the City itself.

(b) All persons who have performed labor, rendered services or furnished materials and supplies, as aforesaid, shall have a direct right of action against the Principal and his, its or their successors and assigns, and the Surety (Sureties) herein, or against either or both or any of them and their successors and assigns. Such persons may sue in their own name, and may prosecute the suit to judgment and execution without the necessity of joining with any other persons as party plaintiff.

(c) The Principal and Surety (Sureties) agree that neither of them will hold the City liable for any judgment for costs of otherwise, obtained by either or both of them against a laborer or materialman in a suit brought by either a laborer or materialman under this bond for moneys allegedly due for performing work or furnishing material.

(d) The Surety (Sureties) or its successors and assigns shall not be liable for any compensation recoverable by an employee or laborer under the Workmen's Compensation Law.

(e) In no event shall the Surety (Sureties), or its successors or assigns, be liable for a greater sum than the penalty of this bond or be subject to any suit, action or proceeding hereon that is instituted by any person, firm, or corporation hereunder later than two years after the complete performance of said Contract and final settlement thereof.

The Principal, for himself and his successors and assigns, and the Surety (Sureties), for itself and its successors and assigns, do hereby expressly waive any objection that might be interposed as to the right of the City to require a bond containing the foregoing provisions, and they do hereby further expressly waive any defense which they or either of them might interpose to an action brought hereon by any person, firm or corporation, including subcontractors, materialmen and third persons, for work, labor, services, supplies or material performed rendered, or furnished as aforesaid upon the ground that there is no law authorizing the City to require the foregoing provisions to be place in this bond.

And the Surety (Sureties), for value received, for itself and its successors and assigns, hereby stipulates and agrees that the obligation of said Surety (Sureties), and its bonds shall be in no way impaired or affected by any extension of time, modification, omission, addition, or change in or of the said Contract or the work to be performed thereunder, or by any payment thereunder before the time required therein, or by any waiver of any provisions thereof, or by any assignment, subletting or other transfer thereof or of any part thereof, or of any Work to be performed, or any moneys due to become due thereunder and said Surety (Sureties) does hereby waive notice of any and all of such extensions, modifications, omissions, additions, changes, payments, waivers, assignments, subcontracts and transfers, and hereby expressly stipulates and agrees that any and all things done and omitted to be done by and in relation to assignees, Subcontractors, and other transferees shall have the same effect as to said Surety (Sureties) as though done or omitted to be done or in relation to said Principal.

Payment Bond (Pages 108 to 111): Use for any contract for which a Payment Bond is required.

IN WITNESS WHEREOF, the Principal and the Surety (Sureties) have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereunto affixed and these presents to be signed by their proper officers, this 29th day of May, 2025.

(Seal)

PERFETTO CONTRACTING CO., INC. (L.S.)
Principal

By: _____

(Seal)

Fidelity and Deposit Company of Maryland and Zurich American Insurance Company
Surety

By: _____
William D Haas, Attorney-in-Fact

(Seal)

_____
Surety

By: _____

(Seal)

_____
Surety

By: _____

(Seal)

_____
Surety

By: _____

If the Contractor (Principal) is a partnership, the bond should be signed by each of the individuals who are partners.

If the Contractor (Principal) is a corporation, the bond should be signed in its correct corporate name by a duly authorized officer, agent, or attorney-in-fact.

There should be executed an appropriate number of counterparts of the bond corresponding to the number of counterparts of the Contract.

Payment Bond (Pages 108 to 111): Use for any contract for which a Payment Bond is required.

ACKNOWLEDGMENT OF PRINCIPAL, IF A CORPORATION

State of New York County of Kings ss:

On this 29th day of May, 2025, before me personally came Cesare Perfetto to me known, who, being by me duly sworn did depose and say that he resides at Staten Island, N.Y. _____ that he is the CEO of the corporation described in and which executed the foregoing instrument; that he knows the seal of said corporation; that one of the seals affixed to said instrument is such seal; that it was so affixed by order of the directors of said corporation, and that he signed his name thereto by like order.

Theresa A Ciccarelli
Notary Public or Commissioner of Deeds

THERESA A. CICCARELLI
Notary Public - State of New York
No. 01C16372597
Qualified In Kings County
My Comm. Expires Mar. 26, 2026

ACKNOWLEDGMENT OF PRINCIPAL, IF A PARTNERSHIP

State of _____ County of _____ ss:

On this _____ day of _____, _____, before me personally appeared _____ to me known, and known to me to be one of the members of the firm of _____ _____ described in and who executed the foregoing instrument; and he acknowledged to me that he executed the same as and for the act and deed of said firm.

_____
Notary Public or Commissioner of Deeds

ACKNOWLEDGMENT OF PRINCIPAL, IF AN INDIVIDUAL

State of _____ County of _____ ss:

On this _____ day of _____, _____, before me personally appeared _____ to me known, and known to me to be the person described in and who executed the foregoing instrument; and acknowledged that he executed the same.

_____
Notary Public or Commissioner of Deeds

Each executed bond should be accompanied by: (a) appropriate acknowledgments of the respective parties; (b) appropriate duly certified copy of Power of Attorney or other certificate of authority where bond is executed by agent, officer or other representative of Principal or Surety; (c) a duly certified extract from By-Laws or resolutions of Surety under which Power of Attorney or other certificate of authority of its agent, officer or representative was issued, and (d) certified copy of latest published financial statement of assets and liabilities of Surety.

* * * * * * * *

Affix Acknowledgments and Justification of Sureties.

Individual Acknowledgment

State of _____

County of _____

On this _____ day of _____, 20____, before me personally came _____ to me known, and known to me to be the individual in and who executed the foregoing instrument, and acknowledged to me that he/she executed the same.

My commission expires _____ _____
Notary Public

Corporation Acknowledgment

State of New York
County of Kings

On the 29th day of May, 2025 before me personally came Cesare Perfetto to me known; who being by me duly sworn, did depose and say that he/she/they reside(s) in CEO that he/she/they is (are) the _____ of the Perfetto Contracting Co. Inc , the corporation described in and which executed the above instrument; that he/she/they know(s) the seal of said corporation; that the seal affixed to said instrument is such corporate seal; that it was so affixed by authority of the board of directors of said corporation, and that he/she/they signed his/her/their name(s) thereto by like authority.

THERESA A. CICCARELLI
Notary Public - State of New York
No. 01C16372597
Qualified In Kings County
My Comm. Expires Mar. 26, 2026

My commission expires 03-26-26 Theresa A Ciccarelli
Notary Public

Surety Acknowledgment

State of **New York**

County of **Westchester**

On the 29th day of **May, 2025** personally came William D. Haas to me known , who being by me duly sworn did depose and say that he/she is an Attorney-in-Fact of Fidelity and Deposit Company of Maryland and Zurich American Insurance Company and which executed the above Instrument know(s) the corporate seal of said corporation; that the seal affixed to the within instrument is such corporate seal, and that he/she/they signed the said instrument and affixed the said seal as Attorney-in-fact by authority of the Board of Directors of said corporation and by authority of this office under the standing resolution thereof.

MAUREEN A KITTRICK
NOTARY PUBLIC STATE OF NEW YORK
LIC. #01KI4986881
COMMISSION EXPIRES 09/30/2025

My commission expires _____ Maureen A. Kittrick
Notary Public

ZURICH AMERICAN INSURANCE COMPANY
COLONIAL AMERICAN CASUALTY AND SURETY COMPANY
FIDELITY AND DEPOSIT COMPANY OF MARYLAND
POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS: That the ZURICH AMERICAN INSURANCE COMPANY, a corporation of the State of New York, the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, a corporation of the State of Illinois, and the FIDELITY AND DEPOSIT COMPANY OF MARYLAND a corporation of the State of Illinois (herein collectively called the "Companies"), by Christopher Nolan, Vice President, in pursuance of authority granted by Article V, Section 8, of the By-Laws of said Companies, which are set forth on the reverse side hereof and are hereby certified to be in full force and effect on the date hereof, do hereby nominate, constitute, and appoint **William D. HAAS, Benedict J. TOCKARSHEWSKY, Marnie GINSBURG, Mary L. PADILLA of White Plains, New York,** its true and lawful agent and Attorney-in-Fact, to make, execute, seal and deliver, for, and on its behalf as surety, and as its act and deed: **any and all bonds and undertakings,** and the execution of such bonds or undertakings in pursuance of these presents, shall be as binding upon said Companies, as fully and amply, to all intents and purposes, as if they had been duly executed and acknowledged by the regularly elected officers of the ZURICH AMERICAN INSURANCE COMPANY at its office in New York, New York., the regularly elected officers of the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY at its office in Owings Mills, Maryland., and the regularly elected officers of the FIDELITY AND DEPOSIT COMPANY OF MARYLAND at its office in Owings Mills, Maryland., in their own proper persons.

The said Vice President does hereby certify that the extract set forth on the reverse side hereof is a true copy of Article V, Section 8, of the By-Laws of said Companies, and is now in force.

IN WITNESS WHEREOF, the said Vice-President has hereunto subscribed his/her names and affixed the Corporate Seals of the said **ZURICH AMERICAN INSURANCE COMPANY, COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, and FIDELITY AND DEPOSIT COMPANY OF MARYLAND**, this 29th day of January, A.D. 2025.



ATTEST:
ZURICH AMERICAN INSURANCE COMPANY
COLONIAL AMERICAN CASUALTY AND SURETY COMPANY
FIDELITY AND DEPOSIT COMPANY OF MARYLAND

By: Christopher Nolan
Vice President

By: Dawn E. Brown
Secretary

State of Maryland
County of Baltimore

On this 29th day of January, A.D. 2025, before the subscriber, a Notary Public of the State of Maryland, duly commissioned and qualified, **Christopher Nolan, Vice President and Dawn E. Brown, Secretary** of the Companies, to me personally known to be the individuals and officers described in and who executed the preceding instrument, and acknowledged the execution of same, and being by me duly sworn, deposeth and saith, that he/she is the said officer of the Company aforesaid, and that the seals affixed to the preceding instrument are the Corporate Seals of said Companies, and that the said Corporate Seals and the signature as such officer were duly affixed and subscribed to the said instrument by the authority and direction of the said Corporations.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my Official Seal the day and year first above written.

Genevieve M. Maison
Notary Public
My Commission Expire January 27, 2029

EXTRACT FROM BY-LAWS OF THE COMPANIES

Authenticity of this bond can be confirmed at bondvalidator.zurichna.com or 410-559-8790

"Article V, Section 8, Attorneys-in-Fact. The Chief Executive Officer, the President, or any Executive Vice President or Vice President may, by written instrument under the attested corporate seal, appoint attorneys-in-fact with authority to execute bonds, policies, recognizances, stipulations, undertakings, or other like instruments on behalf of the Company, and may authorize any officer or any such attorney-in-fact to affix the corporate seal thereto; and may with or without cause modify of revoke any such appointment or authority at any time."

CERTIFICATE

I, the undersigned, Vice President of the ZURICH AMERICAN INSURANCE COMPANY, the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, and the FIDELITY AND DEPOSIT COMPANY OF MARYLAND, do hereby certify that the foregoing Power of Attorney is still in full force and effect on the date of this certificate; and I do further certify that Article V, Section 8, of the By-Laws of the Companies is still in force.

This Power of Attorney and Certificate may be signed by facsimile under and by authority of the following resolution of the Board of Directors of the ZURICH AMERICAN INSURANCE COMPANY at a meeting duly called and held on the 15th day of December 1998.

RESOLVED: "That the signature of the President or a Vice President and the attesting signature of a Secretary or an Assistant Secretary and the Seal of the Company may be affixed by facsimile on any Power of Attorney...Any such Power or any certificate thereof bearing such facsimile signature and seal shall be valid and binding on the Company."

This Power of Attorney and Certificate may be signed by facsimile under and by authority of the following resolution of the Board of Directors of the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY at a meeting duly called and held on the 5th day of May, 1994, and the following resolution of the Board of Directors of the FIDELITY AND DEPOSIT COMPANY OF MARYLAND at a meeting duly called and held on the 10th day of May, 1990.

RESOLVED: "That the facsimile or mechanically reproduced seal of the company and facsimile or mechanically reproduced signature of any Vice-President, Secretary, or Assistant Secretary of the Company, whether made heretofore or hereafter, wherever appearing upon a certified copy of any power of attorney issued by the Company, shall be valid and binding upon the Company with the same force and effect as though manually affixed.

IN TESTIMONY WHEREOF, I have hereunto subscribed my name and affixed the corporate seals of the said Companies, this 29th day of May, 2025.



MJ Pethick

Mary Jean Pethick
Vice President

TO REPORT A CLAIM WITH REGARD TO A SURETY BOND, PLEASE SUBMIT A COMPLETE DESCRIPTION OF THE CLAIM INCLUDING THE PRINCIPAL ON THE BOND, THE BOND NUMBER, AND YOUR CONTACT INFORMATION TO:

Zurich Surety Claims
1299 Zurich Way
Schaumburg, IL 60196-1056
reportsfclaims@zurichna.com
800-626-4577

Authenticity of this bond can be confirmed at bondvalidator.zurichna.com or 410-559-8790

THE FIDELITY AND DEPOSIT COMPANY

OF MARYLAND
1299 Zurich Way Schaumburg, IL 60196

Statement of Financial Condition
As Of December 31, 2024

ASSETS

Bonds		$ 181,162,758
Stocks		18,212,825
Cash and Short-Term Investments		2,411,982
Reinsurance Recoverable		20,361,515
Federal Income Tax Recoverable		10,150
Other Accounts Receivable		26,284,837
TOTAL ADMITTED ASSETS		$ 248,444,067

LIABILITIES, SURPLUS AND OTHER FUNDS

Reserve for Taxes and Expenses		$ 103,295
Ceded Reinsurance Premiums Payable		45,005,200
Remittances and Items Unallocated		0
Payable to parents, subs and affiliates		0
Securities Lending Collateral Liability		0
TOTAL LIABILITIES		$ 45,108,495
Capital Stock, Paid Up	$ 5,000,000	
Surplus	198,335,572	
Surplus as regards Policyholders		203,335,572
TOTAL		$ 248,444,067

Securities carried at $78,636,217 in the above statement are deposited with various states as required by law.

Securities carried on the basis prescribed by the National Association of Insurance Commissioners. On the basis of market quotations for all bonds and stocks owned, the Company's total admitted assets at December 31, 2024 would be $236,552,538 and surplus as regards policyholders $191,444,043.

I, LAURA J. LAZARCZYK, Corporate Secretary of the FIDELITY AND DEPOSIT COMPANY OF MARYLAND, do hereby certify that the foregoing statement is a correct exhibit of the assets and liabilities of the said Company on the 31st day of December, 2024.

Laura J. Lazarczyk

Corporate Secretary

State of Illinois
City of Schaumburg } SS:

Subscribed and sworn to, before me, a Notary Public of the State of Illinois, in the City of Schaumburg, this 25th day of February, 2025.

Notary Public

Official Seal
KATHERINE R SCHULTZ
Notary Public, State of Illinois
Commission No. 686903
My Commission Expires December 7, 2027

ZURICH AMERICAN INSURANCE COMPANY
COMPARATIVE BALANCE SHEET
4 WORLD TRADE CENTER, 150 GREENWICH STREET, NEW YORK, NY 10007
As of December 31, 2024 and December 31, 2023

	12/31/2024	12/31/2023
Assets		
Bonds	$ 14,585,320,733	$ 14,481,089,748
Preferred Stock	-	-
Common Stock	2,318,962,357	2,484,779,919
Real Estate	1,203,299,515	1,255,336,901
Other Invested Assets	1,557,095,337	1,412,632,427
Derivatives	9,084,392	120,622
Short-term Investments	538,419	7,465
Receivable for securities	76,176,280	43,785,484
Cash and cash equivalents	442,486,445	563,619,003
Securities lending reinvested collateral assets	-	-
Employee Trust for Deferred Compensation Plan	172,754,053	165,934,623
Total Cash and Invested Assets	$ 20,365,717,530	$ 20,407,306,192
Premiums Receivable	$ 6,819,954,449	$ 7,250,292,546
Funds Held with Reinsurers	2,283,644	1,266,900
Reinsurance Recoverable	1,502,965,418	1,313,073,816
Accrued Investment Income	129,291,204	128,796,764
Federal Income Tax Recoverable	714,744,916	812,015,054
Due from Affiliates	132,941,409	162,808,448
Other Assets	707,816,920	652,252,690
Total Assets	$ 30,375,715,489	$ 30,727,812,410
Liabilities and Policyholders' Surplus		
Liabilities:		
Loss and LAE Reserves	$ 12,234,708,389	$ 12,024,268,114
Unearned Premium Reserve	4,915,163,970	4,765,091,885
Funds Held with Reinsurers	773,420,047	708,043,842
Loss In Course of Payment	1,483,026,238	2,230,946,834
Commission Reserve	213,774,361	207,235,278
Federal Income Tax Payable	-	-
Remittances and Items Unallocated	243,519,684	335,320,620
Payable to parent, subs and affiliates	388,489,825	550,798,074
Provision for Reinsurance	64,258,573	94,505,406
Ceded Reinsurance Premiums Payable	2,159,392,851	1,822,499,716
Securities Lending Collateral Liability	-	-
Other Liabilities	2,065,429,910	1,910,495,035
Total Liabilities	$ 24,541,183,850	$ 24,649,204,805
Policyholders' Surplus:		
Common Capital Stock	$ 5,000,000	$ 5,000,000
Paid-In and Contributed Surplus	4,393,615,052	4,393,771,330
Surplus Notes	-	-
Special Surplus Funds	3,993,000	4,237,000
Cumulative Unrealized Gain	38,342,087	83,490,440
Unassigned Surplus	1,393,581,502	1,592,108,836
Total Policyholders' Surplus	$ 5,834,531,641	$ 6,078,607,606
Total Liabilities and Policyholders' Surplus	$ 30,375,715,490	$ 30,727,812,410

I, LAURA J. LAZARCZYK, Corporate Secretary of ZURICH AMERICAN INSURANCE COMPANY do hereby certify that the foregoing statement is a correct exhibit of the assets and liabilities of the said Company, on the 31st day of December, 2024, according to the best of my information, knowledge and belief.

Signed by: Laura J. Lazarczyk

Corporate Secretary

State of Illinois
County of Cook } **SS:**

Subscribed and sworn to, before me, a Notary Public of the State of Illinois, in the City of Schaumburg, this 25th day of February, 2025.

Notary public

Official Seal
KATHERINE R SCHULTZ
Notary Public, State of Illinois
Commission No. 686903
My Commission Expires December 7, 2027

INTERNAL USE ONLY

Client#: 2081858 PERFECON81

ACORD™ CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY) 06/11/2025

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer any rights to the certificate holder in lieu of such endorsement(s).

PRODUCER	CONTACT NAME: Kristen Gidlund
USI Ins Svcs, Constr Proj Spec 333 Westchester Ave, Suite 102 White Plains, NY 10604 914 459-6200	PHONE (A/C, No, Ext): 914 459-6200 FAX (A/C, No): 610 537-4220 E-MAIL ADDRESS: Kristen Gidlund@usi.com

INSURER(S) AFFORDING COVERAGE	NAIC #
INSURER A : James River Insurance Company	12203
INSURER B : Mt. Hawley Insurance Company	37974
INSURER C : Hartford Fire Insurance Company	19682
INSURER D : Hartford - WC Multiple Issuing Cos	00914
INSURER E :	
INSURER F :	

INSURED
Perfetto Contracting Co. Inc.

152 41st Street
Brooklyn, NY 11232

COVERAGES **CERTIFICATE NUMBER:** **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	X COMMERCIAL GENERAL LIABILITY			P0000008472	06/09/2025	06/09/2029	EACH OCCURRENCE	$2,000,000
	CLAIMS-MADE X OCCUR						DAMAGE TO RENTED PREMISES (Ea occurrence)	$50,000
							MED EXP (Any one person)	$Excluded
							PERSONAL & ADV INJURY	$2,000,000
	GEN'L AGGREGATE LIMIT APPLIES PER:						GENERAL AGGREGATE	$4,000,000
	POLICY X PRO-JECT LOC						PRODUCTS - COMP/OP AGG	$4,000,000
	OTHER:							$
C	AUTOMOBILE LIABILITY			16UEAGE1922	12/22/2024	12/22/2025	COMBINED SINGLE LIMIT (Ea accident)	$1,000,000
	X ANY AUTO						BODILY INJURY (Per person)	$
	OWNED AUTOS ONLY / SCHEDULED AUTOS						BODILY INJURY (Per accident)	$
	HIRED AUTOS ONLY / NON-OWNED AUTOS ONLY						PROPERTY DAMAGE (Per accident)	$
								$
A	UMBRELLA LIAB X OCCUR			P0000008473	06/09/2025	06/09/2029	EACH OCCURRENCE	$3,000,000
	X EXCESS LIAB CLAIMS-MADE						AGGREGATE	$3,000,000
	DED RETENTION $							$
D	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY Y / N ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	N / A		16WEABB3D9C	12/22/2024	12/22/2025	X PER STATUTE OTH-ER	
							E.L. EACH ACCIDENT	$1,000,000
							E.L. DISEASE - EA EMPLOYEE	$1,000,000
							E.L. DISEASE - POLICY LIMIT	$1,000,000
B	Excess Liability			MXL0444124	06/09/2025	06/09/2029	Each Occ $5,000,000 Aggregate $5,000,000	

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

Project: SANDRDHK - Red Hook Coastal Resiliency (RHCR) Atlantic Basin & Beard Street - Borough of Brooklyn
City of New York, including its officials and employees, All person(s) or
organization(s), if any, that Article 22.1.1(b) of the Contract requires to be named as Additional
Insured(s), U.S. Department of Housing and Urban Development (HUD), including its officials and employees,
New York City Economic Development Corporation (EDC) , including its officials and employees, The Federal
(See Attached Descriptions)

CERTIFICATE HOLDER

New York City Department of
Design and Construction
30-30 Thomson Avenue,
Long Island City, NY 11101

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

Ulle Scott

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DESCRIPTIONS (Continued from Page 1)

Emergency Management Agency (FEMA) , including its officials and employees; The New York State Division of Homeland Security and Emergency Services (DHSES) , including its officials and employees, The Consolidated Edison Company of New York, Inc., Verizon New York, Inc., National Grid USA are included as additional insured and coverage applies on a primary and non-contributory basis on the general liability policy per the attached endorsements/forms as required by written contract. Waiver of subrogation applies on the general liability and excess liability policies per the attached endorsements/forms, as required by written contract.

Client#: 2081858 PERFECON81

ACORD™ CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY) 6/11/2025

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

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PRODUCER	CONTACT NAME: Kristen Gidlund
USI Ins Svcs, Constr Proj Spec 333 Westchester Ave, Suite 102 White Plains, NY 10604 914 459-6200	PHONE (A/C, No, Ext): 914 459-6200 FAX (A/C, No): 610 537-4220 E-MAIL ADDRESS: Kristen.Gidlund@usi.com

INSURER(S) AFFORDING COVERAGE	NAIC #
INSURER A : Fair American Select Insurance Company	15201
INSURER B : Westchester Surplus Lines Insurance Co.	10172
INSURER C : Westfield Specialty Insurance Company	16992
INSURER D : Lexington Insurance Company	19437
INSURER E :	
INSURER F :	

INSURED
Perfetto Contracting Co. Inc.
Project:Red Hook
152 41st Street
Brooklyn, NY 11232

COVERAGES **CERTIFICATE NUMBER:** **REVISION NUMBER:**

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INSR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
	COMMERCIAL GENERAL LIABILITY						EACH OCCURRENCE	$
	CLAIMS-MADE OCCUR						DAMAGE TO RENTED PREMISES (Ea occurrence)	$
							MED EXP (Any one person)	$
							PERSONAL & ADV INJURY	$
	GEN'L AGGREGATE LIMIT APPLIES PER:						GENERAL AGGREGATE	$
	POLICY PRO-JECT LOC						PRODUCTS - COMP/OP AGG	$
	OTHER:							$
	AUTOMOBILE LIABILITY						COMBINED SINGLE LIMIT (Ea accident)	$
	ANY AUTO						BODILY INJURY (Per person)	$
	OWNED AUTOS ONLY / SCHEDULED AUTOS						BODILY INJURY (Per accident)	$
	HIRED AUTOS ONLY / NON-OWNED AUTOS ONLY						PROPERTY DAMAGE (Per accident)	$
								$
A	UMBRELLA LIAB X OCCUR			CSX800082800	06/09/2025	06/09/2029	EACH OCCURRENCE	$10,000,000
B	X EXCESS LIAB CLAIMS-MADE			G48630418001	06/09/2025	06/09/2029	AGGREGATE	$10,000,000
	DED RETENTION $							$
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY Y / N ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	N / A					PER STATUTE OTH-ER	
							E.L. EACH ACCIDENT	$
							E.L. DISEASE - EA EMPLOYEE	$
							E.L. DISEASE - POLICY LIMIT	$
C	Excess Liability			XSL486335W00	06/09/2025	06/09/2029	Each Occ $15,000,000	
D	Excess Liability			BINDER23762146	06/09/2025	06/09/2029	Aggregate $15,000,000	

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

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CERTIFICATE HOLDER

New York City Department of
Design and Construction
30-30 Thomson Avenue,
Long Island City, NY 11101

CANCELLATION

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AUTHORIZED REPRESENTATIVE

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DESCRIPTIONS (Continued from Page 1)

Emergency Management Agency (FEMA) , including its officials and employees; The New York State Division of Homeland Security and Emergency Services (DHSES) , including its officials and employees, The Consolidated Edison Company of New York, Inc., Verizon New York, Inc., National Grid USA are included as additional insured and coverage applies on a primary and non-contributory basis on the general liability policy per the attached endorsements/forms as required by written contract. Waiver of subrogation applies on the general liability and excess liability policies per the attached endorsements/forms, as required by written contract.

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PRODUCER	CONTACT NAME: Kristen Gidlund
USI Ins Svcs, Constr Proj Spec 333 Westchester Ave, Suite 102 White Plains, NY 10604 914 459-6200	PHONE (A/C, No, Ext): 914 459-6200 FAX (A/C, No): 610 537-4220 E-MAIL ADDRESS: Kristen.Gidlund@usi.com

INSURER(S) AFFORDING COVERAGE	NAIC #
INSURER A : Colony Insurance Company	39993
INSURER B : Arch Specialty Insurance Company	21199
INSURER C :	
INSURER D :	
INSURER E :	
INSURER F :	

INSURED
Perfetto Contracting Co. Inc.
Project:Red Hook
152 41st Street
Brooklyn, NY 11232

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INSR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
	COMMERCIAL GENERAL LIABILITY						EACH OCCURRENCE	$
	CLAIMS-MADE OCCUR						DAMAGE TO RENTED PREMISES (Ea occurrence)	$
							MED EXP (Any one person)	$
							PERSONAL & ADV INJURY	$
	GEN'L AGGREGATE LIMIT APPLIES PER:						GENERAL AGGREGATE	$
	POLICY PRO-JECT LOC						PRODUCTS - COMP/OP AGG	$
	OTHER:							$
	AUTOMOBILE LIABILITY						COMBINED SINGLE LIMIT (Ea accident)	$
	ANY AUTO						BODILY INJURY (Per person)	$
	OWNED AUTOS ONLY / SCHEDULED AUTOS						BODILY INJURY (Per accident)	$
	HIRED AUTOS ONLY / NON-OWNED AUTOS ONLY						PROPERTY DAMAGE (Per accident)	$
								$
A	UMBRELLA LIAB X OCCUR			AR6462970	06/09/2025	06/09/2029	EACH OCCURRENCE	$10,000,000
	X EXCESS LIAB CLAIMS-MADE						AGGREGATE	$10,000,000
	DED RETENTION $							$
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY Y / N						PER STATUTE OTH-ER	
	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED?	N / A					E.L. EACH ACCIDENT	$
	(Mandatory in NH)						E.L. DISEASE - EA EMPLOYEE	$
	If yes, describe under DESCRIPTION OF OPERATIONS below						E.L. DISEASE - POLICY LIMIT	$
B	Excess Liability			UXP106004700	06/09/2025	06/09/2029	Each Occ $10,000,000 Aggregate $10,000,000	

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

Project: SANDRDHK - Red Hook Coastal Resiliency (RHCR) Atlantic Basin & Beard Street - Borough of Brooklyn City of New York, including its officials and employees, All person(s) or organization(s), if any, that Article 22.1.1(b) of the Contract requires to be named as Additional Insured(s), U.S. Department of Housing and Urban Development (HUD), including its officials and employees, New York City Economic Development Corporation (EDC) , including its officials and employees, The Federal (See Attached Descriptions)

CERTIFICATE HOLDER

New York City Department of
Design and Construction
30-30 Thomson Avenue,
Long Island City, NY 11101

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

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DESCRIPTIONS (Continued from Page 1)

Emergency Management Agency (FEMA) , including its officials and employees; The New York State Division of Homeland Security and Emergency Services (DHSES) , including its officials and employees, The Consolidated Edison Company of New York, Inc., Verizon New York, Inc., National Grid USA are included as additional insured and coverage applies on a primary and non-contributory basis on the general liability policy per the attached endorsements/forms as required by written contract. Waiver of subrogation applies on the general liability and excess liability policies per the attached endorsements/forms, as required by written contract.

Client#: 2081858 PERFECON81

ACORD™ CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY) 6/11/2025

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer any rights to the certificate holder in lieu of such endorsement(s).

PRODUCER
USI Ins Svcs, Constr Proj Spec
333 Westchester Ave, Suite 102
White Plains, NY 10604
914 459-6200

CONTACT NAME: Kristen Gidlund
PHONE (A/C, No, Ext): 914 459-6200 **FAX (A/C, No):** 610 537-4220
E-MAIL ADDRESS: Kristen.Gidlund@usi.com

INSURER(S) AFFORDING COVERAGE	NAIC #
INSURER A : SiriusPoint Specialty Insurance Corp	16820
INSURER B : Homesite Insurance Company	17221
INSURER C : Westchester Surplus Lines Insurance Co.	10172
INSURER D :	
INSURER E :	
INSURER F :	

INSURED
Perfetto Contracting Co. Inc.
Project:Red Hook
152 41st Street
Brooklyn, NY 11232

COVERAGES **CERTIFICATE NUMBER:** **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
	COMMERCIAL GENERAL LIABILITY						EACH OCCURRENCE	$
	CLAIMS-MADE OCCUR						DAMAGE TO RENTED PREMISES (Ea occurrence)	$
							MED EXP (Any one person)	$
							PERSONAL & ADV INJURY	$
	GEN'L AGGREGATE LIMIT APPLIES PER:						GENERAL AGGREGATE	$
	POLICY PRO-JECT LOC						PRODUCTS - COMP/OP AGG	$
	OTHER:							$
	AUTOMOBILE LIABILITY						COMBINED SINGLE LIMIT (Ea accident)	$
	ANY AUTO						BODILY INJURY (Per person)	$
	OWNED AUTOS ONLY / SCHEDULED AUTOS						BODILY INJURY (Per accident)	$
	HIRED AUTOS ONLY / NON-OWNED AUTOS ONLY						PROPERTY DAMAGE (Per accident)	$
								$
A	UMBRELLA LIAB X OCCUR			TSX00151525	06/09/2025	06/09/2029	EACH OCCURRENCE	$18,000,000
B	X EXCESS LIAB CLAIMS-MADE			CPX05310900	06/09/2025	06/09/2029	AGGREGATE	$18,000,000
C	DED RETENTION $			G48630479001	06/09/2025	06/09/2029		$
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY Y / N						PER STATUTE OTH-ER	
	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH)	N / A					E.L. EACH ACCIDENT	$
	If yes, describe under DESCRIPTION OF OPERATIONS below						E.L. DISEASE - EA EMPLOYEE	$
							E.L. DISEASE - POLICY LIMIT	$

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

Project: SANDRDHK - Red Hook Coastal Resiliency (RHCR) Atlantic Basin & Beard Street - Borough of Brooklyn City of New York, including its officials and employees, All person(s) or organization(s), if any, that Article 22.1.1(b) of the Contract requires to be named as Additional Insured(s), U.S. Department of Housing and Urban Development (HUD), including its officials and employees, (See Attached Descriptions)

CERTIFICATE HOLDER
New York City Department of
Design and Construction
30-30 Thomson Avenue,
Long Island City, NY 11101

CANCELLATION
SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

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DESCRIPTIONS (Continued from Page 1)

New York City Economic Development Corporation (EDC) , including its officials and employees, The Federal Emergency Management Agency (FEMA) , including its officials and employees; The New York State Division of Homeland Security and Emergency Services (DHSES) , including its officials and employees, The Consolidated Edison Company of New York, Inc., Verizon New York, Inc., National Grid USA are included as additional insured and coverage applies on a primary and non-contributory basis on the general liability policy per the attached endorsements/forms as required by written contract. Waiver of subrogation applies on the general liability and excess liability policies per the attached endorsements/forms, as required by written contract.

CITY OF NEW YORK

CERTIFICATION BY INSURANCE BROKER OR AGENT

The undersigned insurance broker or agent represents to the City of New York that the attached Certificate of Insurance is accurate in all material respects.

Kyle Dallendorfer
[Name of broker or agent (typewritten)]

333 Westchester Ave, Suite #102
[Address of broker or agent (typewritten)]

Kyle.Dallendorfer@usi.com
[Email address of broker or agent (typewritten)]

914-297-3135
[Phone number/Fax number of broker or agent (typewritten)]

Kyle Dallendorfer
[Signature of authorized official, broker, or agent]

Account Manager
[Name and title of authorized official, broker, or agent (typewritten)]

State of New York .....)
) ss.:
County of Westchester .....)

Sworn to before me this 11TH day of June 2025

Tina Castiello
NOTARY PUBLIC FOR THE STATE OF New York

TINA CASTIELLO
NOTARY PUBLIC - STATE OF NEW YORK
NO. 01CA6191205
QUALIFIED IN WESTCHESTER COUNTY
MY COMMISSION EXPIRES AUGUST 04, 2028

NEW YORK STATE | Workers' Compensation Board

CERTIFICATE OF NYS WORKERS' COMPENSATION INSURANCE COVERAGE

1a. Legal Name & Address of Insured (use street address only)	1b. Business Telephone Number of Insured
Perfetto Contracting Co. Inc. 152 41st Street Brooklyn, NY 11232 Work Location of Insured *(Only required if coverage is specifically limited to certain locations in New York State, i.e., a Wrap-Up Policy)*	718-858-8600 1c. NYS Unemployment Insurance Employer Registration Number of Insured 48-50945 1d. Federal Employer Identification Number of Insured or Social Security Number 11-2814026
2. Name and Address of Entity Requesting Proof of Coverage (Entity Being Listed as the Certificate Holder) NYC Department of Design and Construction 30-30 Thomson Avenue, 4th Floor Long Island City, NY 11101	3a. Name of Insurance Carrier Hartford Accident & Indemnity Ins. Co. 3b. Policy Number of Entity Listed in Box "1a" 16WEABB3D9C 3c. Policy effective period 12/22/24 to 12/22/25 3d. The Proprietor, Partners or Executive Officers are ☒ included. (Only check box if all partners/officers included) ☐ all excluded or certain partners/officers excluded.

This certifies that the insurance carrier indicated above in box "3" insures the business referenced above in box "1a" for workers' compensation under the New York State Workers' Compensation Law. **(To use this form, New York (NY) must be listed under Item 3A on the INFORMATION PAGE of the workers' compensation insurance policy).** The Insurance Carrier or its licensed agent will send this Certificate of Insurance to the entity listed above as the certificate holder in box "2".

Will the carrier notify the certificate holder within 10 days of a policy being cancelled for non-payment of premium or within 30 days if cancelled for any other reason or if the insured is otherwise eliminated from the coverage indicated on this certificate prior to the end of the policy effective period? ☒ YES ☐ NO

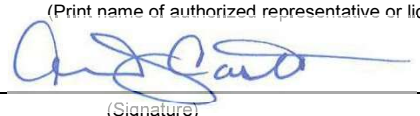
This certificate is issued as a matter of information only and confers no rights upon the certificate holder. This certificate does not amend, extend or alter the coverage afforded by the policy listed, nor does it confer any rights or responsibilities beyond those contained in the referenced policy.

This certificate may be used as evidence of a Workers' Compensation contract of insurance only while the underlying policy is in effect.

Please Note: Upon cancellation of the workers' compensation policy indicated on this form, if the business continues to be named on a permit, license or contract issued by a certificate holder, the business must provide that certificate holder with a new Certificate of Workers' Compensation Coverage or other authorized proof that the business is complying with the mandatory coverage requirements of the New York State Workers' Compensation Law.

Under penalty of perjury, I certify that I am an authorized representative or licensed agent of the insurance carrier referenced above and that the named insured has the coverage as depicted on this form.

Approved by: Andy Castle
(Print name of authorized representative or licensed agent of insurance carrier)

Approved by:  12/14/2024
(Signature) (Date)

Title: Broker

Telephone Number of authorized representative or licensed agent of insurance carrier: (973) 965-3166

Please Note: Only insurance carriers and their licensed agents are authorized to issue Form C-105.2. Insurance brokers are NOT authorized to issue it.

Workers' Compensation Law

Section 57. Restriction on issue of permits and the entering into contracts unless compensation is secured.

1. The head of a state or municipal department, board, commission or office authorized or required by law to issue any permit for or in connection with any work involving the employment of employees in a hazardous employment defined by this chapter, and notwithstanding any general or special statute requiring or authorizing the issue of such permits, shall not issue such permit unless proof duly subscribed by an insurance carrier is produced in a form satisfactory to the chair, that compensation for all employees has been secured as provided by this chapter. Nothing herein, however, shall be construed as creating any liability on the part of such state or municipal department, board, commission or office to pay any compensation to any such employee if so employed.

2. The head of a state or municipal department, board, commission or office authorized or required by law to enter into any contract for or in connection with any work involving the employment of employees in a hazardous employment defined by this chapter, notwithstanding any general or special statute requiring or authorizing any such contract, shall not enter into any such contract unless proof duly subscribed by an insurance carrier is produced in a form satisfactory to the chair, that compensation for all employees has been secured as provided by this chapter.

NEW YORK STATE | Workers' Compensation Board

CERTIFICATE OF INSURANCE COVERAGE
NYS DISABILITY AND PAID FAMILY LEAVE BENEFITS LAW

PART 1. To be completed by NYS Disability and Paid Family Leave benefits carrier or licensed insurance agent of that carrier

1a. Legal Name & Address of Insured (use street address only)

PERFETTO CONTRACTING CO INC.
152 41ST STREET
BROOKLYN, NY 11232

Work Location of Insured *(Only required if coverage is specifically limited to certain locations in New York State, i.e., Wrap-Up Policy)*

1b. Business Telephone Number of Insured

718 858 8600

1c. Federal Employer Identification Number of Insured or Social Security Number

112814026

2. Name and Address of Entity Requesting Proof of Coverage (Entity Being Listed as the Certificate Holder)

NYC Department of Design and Construction
30-30 Thomson Avenue, 4th Floor
Long Island City, NY 11101

3a. Name of Insurance Carrier

HARTFORD LIFE AND ACCIDENT INSURANCE COMPANY

3b. Policy Number of Entity Listed in Box 1a

LNY617471001

3c. Policy effective period

12/22/2024 -12/22-2025

4. Policy provides the following benefits:

- [X] A. Both disability and Paid Family Leave benefits.
- [ ] B. Disability benefits only.
- [ ] C. Paid Family Leave benefits only.

5. Policy covers:

- [X] A. All of the employer's employees eligible under the NYS Disability and Paid Family Leave Benefits Law.
- [ ] B. Only the following class or classes of employer's employees:

Under penalty of perjury, I certify that I am an authorized representative or licensed agent of the insurance carrier referenced above and that the named insured has NYS Disability and/or Paid Family Leave benefits insurance coverage as described above.

Date Signed 12/22/2024 **By** Elizabeth Tello

(Signature of insurance carrier's authorized representative or NYS licensed insurance agent of that insurance carrier)

Telephone Number (212) 553-8074 **Name and Title:** ELIZABETH TELLO – ASSISTANT DIRECTOR, STATUTORY SERVICES

IMPORTANT: **If Boxes 4A and 5A are checked, and this form is signed by the insurance carrier's authorized representative or NYS Licensed Insurance Agent of that carrier, this certificate is COMPLETE. Mail it directly to the certificate holder.**

If Box 4B, 4C or 5B is checked, this certificate is NOT COMPLETE for purposes of Section 220, Subd. 8 of the NYS Disability and Paid Family Leave Benefits Law. It must be emailed to PAU@wcb.ny.gov or it can be mailed for completion to the Workers' Compensation Board, Plans Acceptance Unit, PO Box 5200, Binghamton, NY 13902-5200.

PART 2. To be completed by the NYS Workers' Compensation Board (Only if Box 4B, 4C or 5B have been checked)

State of New York
Workers' Compensation Board

According to information maintained by the NYS Workers' Compensation Board, the above-named employer has complied with the NYS Disability and Paid Family Leave Benefits Law (Article 9 of the Workers' Compensation Law) with respect to all of their employees.

Date Signed **By**

(Signature of Authorized NYS Workers' Compensation Board Employee)

Telephone Number **Name and Title**

Please Note: *Only insurance carriers licensed to write NYS disability and Paid Family Leave benefits insurance policies and NYS licensed insurance agents of those insurance carriers are authorized to issue Form DB-120.1.* ***Insurance brokers are NOT authorized to issue this form.***

DB-120.1 (12-21)

Additional Instructions for Form DB-120.1

By signing this form, the insurance carrier identified in Box 3 on this form is certifying that it is insuring the business referenced in Box 1a for disability and/or Paid Family Leave benefits under the NYS Disability and Paid Family Leave Benefits Law. The insurance carrier or its licensed agent will send this Certificate of Insurance Coverage (Certificate) to the entity listed as the certificate holder in Box 2.

The insurance carrier must notify the above certificate holder and the Workers' Compensation Board within 10 days IF a policy is cancelled due to nonpayment of premiums or within 30 days IF there are reasons other than nonpayment of premiums that cancel the policy or eliminate the insured from coverage indicated on this Certificate. (These notices may be sent by regular mail.) Otherwise, this Certificate is valid for one year after this form is approved by the insurance carrier or its licensed agent, or until the policy expiration date listed in Box 3c, whichever is earlier.

This Certificate is issued as a matter of information only and confers no rights upon the certificate holder. This Certificate does not amend, extend or alter the coverage afforded by the policy listed, nor does it confer any rights or responsibilities beyond those contained in the referenced policy.

This Certificate may be used as evidence of a NYS disability and/or Paid Family Leave benefits contract of insurance only while the underlying policy is in effect.

Please Note: Upon the cancellation of the disability and/or Paid Family Leave benefits policy indicated on this form, if the business continues to be named on a permit, license or contract issued by a certificate holder, the business must provide that certificate holder with a new Certificate of Insurance Coverage for NYS disability and/or Paid Family Leave Benefits or other authorized proof that the business is complying with the mandatory coverage requirements of the NYS Disability and Paid Family Leave Benefits Law.

NYS DISABILITY AND PAID FAMILY LEAVE BENEFITS LAW

§220. Subd. 8

(a) The head of a state or municipal department, board, commission or office authorized or required by law to issue any permit for or in connection with any work involving the employment of employees in employment as defined in this article, and not withstanding any general or special statute requiring or authorizing the issue of such permits, shall not issue such permit unless proof duly subscribed by an insurance carrier is produced in a form satisfactory to the chair, that the payment of disability benefits and after January first, two thousand and twenty-one, the payment of family leave benefits for all employees has been secured as provided by this article. Nothing herein, however, shall be construed as creating any liability on the part of such state or municipal department, board, commission or office to pay any disability benefits to any such employee if so employed.

(b) The head of a state or municipal department, board, commission or office authorized or required by law to enter into any contract for or in connection with any work involving the employment of employees in employment as defined in this article and notwithstanding any general or special statute requiring or authorizing any such contract, shall not enter into any such contract unless proof duly subscribed by an insurance carrier is produced in a form satisfactory to the chair, that the payment of disability benefits and after January first, two thousand eighteen, the payment of family leave benefits for all employees has been secured as provided by this article.

LABOR LAW ARTICLE 8 - NYC PUBLIC WORKS

Workers, Laborers and Mechanics employed on a public work project must receive not less than the prevailing rate of wage and benefits for the classification of work performed by each upon such public work. Pursuant to New York Labor Law Article 8 the Comptroller of the City of New York has promulgated this schedule solely for Workers, Laborers and Mechanics engaged by private contractors on New York City public work projects. Prevailing rates are required to be annexed to and form part of the public work contract pursuant to Labor Law section 220 (3).

This schedule is a compilation of separate determinations of the prevailing rate of wage and supplements made by the Comptroller for each trade classification listed herein pursuant to Labor Law section 220 (5). The source of the wage and supplement rates, whether a collective bargaining agreement, survey data or other, is listed at the end of each classification.

Agency Chief Contracting Officers should contact the Bureau of Labor Law's Classification Unit with any questions concerning trade classifications, prevailing rates or prevailing practices with respect to procurement on New York City public work contracts. Contractors are advised to review the Comptroller's Prevailing Wage Schedule before bidding on public work contracts. Contractors with questions concerning trade classifications, prevailing rates or prevailing practices with respect to public work contracts in the procurement stage must contact the contracting agency responsible for the procurement.

Any error as to compensation under the prevailing wage law or other information as to trade classification, made by the contracting agency in the contract documents or in any other communication, will not preclude a finding against the contractor of prevailing wage violation.

Any questions concerning trade classifications, prevailing rates or prevailing practices on New York City public work contracts that have already been awarded may be directed to the Bureau of Labor Law's Classification Unit by calling (212) 669-4443. All callers must have the agency name and contract registration number available when calling with questions on public work contracts. Please direct all other compliance issues to: laborlaw@comptroller.nyc.gov or Bureau of Labor Law, Attn: Paul Brumlik, Office of the Comptroller, 1 Centre Street, Room 651, New York, N.Y. 10007.

Pursuant to Labor Law § 220 (3-a) (a), the appropriate schedule of prevailing wages and benefits must be posted in a prominent and accessible place at all public work sites along with the Construction Poster provided on our web site at comptroller.nyc.gov/wages. In addition, covered employees must be given the appropriate schedule of prevailing wages and benefits along with the Worker Notice provided on our web site at the time the public work project begins, and with the first paycheck to each such employee after July first of each year.

This schedule is applicable to work performed during the effective period, unless otherwise noted. Changes to this schedule are published on our web site comptroller.nyc.gov/wages. Contractors must pay the wages and supplements in effect when the worker, laborer, mechanic performs the work. Preliminary schedules for future one-year periods appear in the City Record on or about June 1 each succeeding year. Final schedules appear on or about July 1 in the City Record and on our web site comptroller.nyc.gov/wages.

Prevailing rates and ratios for apprentices are published in the Construction Apprentice Prevailing Wage Schedule. Pursuant to Labor Law § 220 (3-e), only apprentices who are individually registered in a bona fide program to which the employer contractor is a participant, registered with the

New York State Department of Labor, may be paid at the apprentice rates. Apprentices who are not so registered must be paid as journey persons.

New York City public work projects awarded pursuant to a Project Labor Agreement ("PLA") in accordance with Labor Law section 222 may have different labor standards for shift, premium and overtime work. Please refer to the PLA's pre-negotiated labor agreements for wage and benefit rates applicable to work performed outside of the regular workday. More information is available at the Mayor's Office of Contract Services (MOCS) web page at:

https://www1.nyc.gov/site/mocs/legal-forms/project-labor-agreements.page

All the provisions of Labor Law Article 8 remain applicable to PLA work including, but not limited to, the enforcement of prevailing wage requirements by the Comptroller in accordance with the trade classifications in this schedule; however, we will enforce shift, premium, overtime and other non-standard rates as they appear in a project's pre-negotiated labor agreement.

In order to meet their obligation to provide prevailing supplemental benefits to each covered employee, employers must either:

1) **Provide bona fide fringe benefits which cost the employer no less than the prevailing supplemental benefits rate; or**
2) **Supplement the employee's hourly wage by an amount no less than the prevailing supplemental benefits rate; or**
3) **Provide a combination of bona fide fringe benefits and wage supplements which cost the employer no less than the prevailing supplemental benefits rate in total.**

Although prevailing wage laws do not require employers to provide bona fide fringe benefits (as opposed to wage supplements) to their employees, other laws may. For example, the Employee Retirement Income Security Act, 29 U.S.C. § 1001 et seq., the Patient Protection and Affordable Care Act, 42 U.S.C. § 18001 et seq., and the New York City Paid Sick Leave Law, N.Y.C. Admin. Code § 20-911 et seq., require certain employers to provide certain benefits to their employees. Labor agreements to which employers are a party may also require certain benefits. The Comptroller's Office does not enforce these laws or agreements.

Employers must provide prevailing supplemental benefits at the straight time rate for each hour worked unless otherwise noted in the classification.

Paid Holidays, Vacation and Sick Leave when listed must be paid or provided in addition to the prevailing hourly supplemental benefit rate.

For more information, please refer to the Comptroller's Prevailing Wage Law Regulations in Title 44 of the Rules of the City of New York, Chapter 2, available at comptroller.nyc.gov/wages.

Paul Brumlik
Director of Classifications
Bureau of Labor Law

ADDENDUM

List of Amended Classifications

1. FLAGGER
2. LABORER - HEAVY & HIGHWAY
3. LABORER - PAVER & ROADBUILDER
4. LABORER - PAVER & ROADBUILDER LINE STRIPING (ROADWAY)

TABLE OF CONTENTS

CLASSIFICATION	PAGE
ASBESTOS HANDLER	7
BLASTER	7
BOILERMAKER	8
BRICKLAYER	9
CARPENTER - BUILDING COMMERCIAL	10
CARPENTER - HEAVY CONSTRUCTION WORK	11
CARPENTER - HIGH RISE CONCRETE FORMS	12
CARPENTER - SIDEWALK SHED, SCAFFOLD AND HOIST	13
CARPENTER - WOOD WATER STORAGE TANK	14
CEMENT & CONCRETE WORKER	15
CEMENT MASON	16
CORE DRILLER	17
DERRICKPERSON AND RIGGER	18
DIVER	19
DOCKBUILDER - PILE DRIVER	20
DRIVER: TRUCK (TEAMSTER)	21
ELECTRICIAN	23
ELECTRICIAN - ALARM TECHNICIAN	26
ELECTRICIAN-STREET LIGHTING WORKER	27
ELEVATOR CONSTRUCTOR	28
ELEVATOR REPAIR & MAINTENANCE	29
ENGINEER	30
ENGINEER - CITY SURVEYOR AND CONSULTANT	35
ENGINEER - FIELD (BUILDING CONSTRUCTION)	36
ENGINEER - FIELD (HEAVY CONSTRUCTION)	37
ENGINEER - FIELD (STEEL ERECTION)	38
ENGINEER - OPERATING	39
FLAGGER	47
FLOOR COVERER	48
GLAZIER	49
GLAZIER - REPAIR & MAINTENANCE	49

HAZARDOUS MATERIAL HANDLER 50
HEAT AND FROST INSULATOR 51
HOUSE WRECKER 52
IRON WORKER - ORNAMENTAL 53
IRON WORKER - STRUCTURAL 54
LABORER – HEAVY & HIGHWAY 55
LABORER - PAVER & ROADBUILDER 56
LABORER - PAVER & ROADBUILDER LINE STRIPING (ROADWAY) 57
LANDSCAPING 59
MARBLE MECHANIC 60
MASON TENDER 61
MASON TENDER (INTERIOR DEMOLITION WORKER) 62
METALLIC LATHER 63
MILLWRIGHT 64
MOSAIC MECHANIC 65
PAINTER 66
PAINTER - BRIDGE & STRUCTURAL STEEL 67
PAINTER - METAL POLISHER 68
PAINTER - SIGN 69
PAINTER - STRUCTURAL STEEL ..... Error! Bookmark not defined.
PAPERHANGER 70
PAVER AND ROADBUILDER 71
PAVER AND ROADBUILDER - LINE STRIPING (ROADWAY) 71
PLASTERER 71
PLASTERER - TENDER 72
PLUMBER 73
PLUMBER (MECHNICAL EQUIPMENT AND SERVICE) 74
PLUMBER (RESIDENTIAL RATES FOR 1, 2 AND 3 FAMILY HOME CONSTRUCTION) 75
PLUMBER: PUMP & TANK 75
POINTER, WATERPROOFER, CAULKER, SANDBLASTER, STEAMBLASTER 76
ROOFER 77
SHEET METAL WORKER 78
SHEET METAL WORKER - SPECIALTY 79

SHIPYARD WORKER 80
SIGN ERECTOR 81
STEAMFITTER 82
STEAMFITTER - REFRIGERATION AND AIR CONDITIONER 83
STONE MASON - SETTER 84
TAPER 85
TELECOMMUNICATION WORKER 86
TILE FINISHER 87
TILE LAYER - SETTER 88
TIMBERPERSON 88
TUNNEL WORKER 89
WELDER 93

ASBESTOS HANDLER

SEE HAZARDOUS MATERIAL HANDLER

BLASTER

Blaster

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $58.21
Supplemental Benefit Rate per Hour: $54.03

Blaster - Hydraulic Trac Drill

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $52.35
Supplemental Benefit Rate per Hour: $54.03

Blaster - Wagon: Air Trac: Quarry Bar: Drillrunners

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $51.52
Supplemental Benefit Rate per Hour: $54.03

Blaster - Journeyperson

(Laborer, Chipper/Jackhammer including Walk Behind Self Propelled Hydraulic Asphalt and Concrete Breakers and Hydro (Water) Demolition, Powder Carrier, Hydraulic Chuck Tender, Chuck Tender and Nipper)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $45.00
Supplemental Benefit Rate per Hour: $54.03

Blaster - Magazine Keepers: (Watch Person)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $22.50
Supplemental Benefit Rate per Hour: $54.03

Overtime

Time and one half the regular rate after an 8 hour day.
Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).
New Year's Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Thanksgiving Day
Christmas Day

Paid Holidays

Labor Day
Thanksgiving Day

Shift Rates

When two shifts are employed, single time rate shall be paid for each shift. When three shifts are found necessary, each shift shall work seven and one half hours (7 ½), but shall be paid for eight (8) hours of labor, and be permitted one half hour for lunch.

(Local #731)

BOILERMAKER

Boilermaker

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $67.38
Supplemental Benefit Rate per Hour: $49.33
Supplemental Note: For time and one half overtime - $73.42 For double overtime - $97.51

Overtime Description

For Repair and Maintenance work:
Time and one half the regular rate after an 8 hour day.
Time and one half the regular rate for Saturday.
Double time the regular rate for Sunday.
For New Construction work:
Double time the regular rate after an 8 hour day.
Double time the regular time rate for Saturday.
Double time the regular rate for Sunday.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).
New Year's Day
President's Day

Memorial Day
Independence Day
Columbus Day
Election Day
Veteran's Day
Thanksgiving Day
Christmas Day

Quadruple time the regular rate for work on the following holiday(s).
Labor Day

Paid Holidays
Good Friday
Day after Thanksgiving
Day before Christmas
Day before New Year's Day

Shift Rates
On jobs requiring two (2) or three (3) shifts, the first shift shall work eight (8) hours at the regular straight-time hourly rate. The second shift shall work eight (8) hours and receive eight hours at the regular straight time hourly rate plus two dollars ($2.00) per hour. The third shift shall work eight (8) hours and receive eight hours at the regular straight time hourly rate plus two dollars and twenty-five cents ($2.25) per hour.

(Local #5)

BRICKLAYER

Bricklayer

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $59.09
Supplemental Benefit Rate per Hour: $43.05

Overtime Description
Time and one half the regular rate after a 7 hour day. If working on a job that is predominately Pointer, Cleaner, Caulker work, then Time and one half the regular rate after an 8 hour day.

Overtime
Time and one half the regular rate for Saturday.
Double time the regular rate for Sunday.
Saturday may be used as a make-up day at straight time when a day is lost during that week to inclement weather.

Overtime Holidays
Double time the regular rate for work on the following holiday(s).
New Year's Day

President's Day
Memorial Day
Independence Day
Labor Day
Thanksgiving Day
Christmas Day

Paid Holidays
None

Shift Rates
The second shift wage rate shall be a 15% wage premium with no premium for supplemental benefits. There must be a first shift in order to work a second shift. When it is not possible to conduct alteration or repair work during regular working hours in a building occupied by tenants, eight hours will be paid at straight time rate for seven hours of work.

(Bricklayer District Council)

CARPENTER - BUILDING COMMERCIAL

Building Commercial

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $57.05
Supplemental Benefit Rate per Hour: $48.33

Overtime
Time and one half the regular rate after an 8 hour day.
Time and one half the regular rate for Saturday.
Double time the regular rate for Sunday.
Saturday may be used as a make-up day at straight time when a day is lost during that week to inclement weather.

Overtime Holidays
Double time the regular rate for work on the following holiday(s).
New Year's Day
President's Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Presidential Election Day
Thanksgiving Day
Day after Thanksgiving
Christmas Day

Paid Holidays
None

Shift Rates
The second shift will receive one hour at the double time rate of pay for the last hour of the shift; eight hours pay for seven hours of work, nine hours pay for eight hours of work. There must be a first shift in order to work a second shift. When it is not possible to conduct alteration or repair work during regular working hours in a building occupied by tenants, the rule for the second shift will apply.

(Carpenters District Council)

CARPENTER - HEAVY CONSTRUCTION WORK
(Construction of Engineered Structures and Building Foundations including all form work)

Heavy Construction Work

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $60.59
Supplemental Benefit Rate per Hour: $55.84

Overtime
Time and one half the regular rate after an 8 hour day.
Time and one half the regular rate for Saturday.
Double time the regular rate for Sunday.
Saturday may be used as a make-up day at straight time when a day is lost during that week to inclement weather.

Overtime Holidays
Double time the regular rate for work on the following holiday(s).
New Year's Day
President's Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Presidential Election Day
Thanksgiving Day
Christmas Day

Paid Holidays
None

Shift Rates

Off shift work commencing between 5:00 P.M. and 11:00 P.M. shall work eight and one half hours allowing for one half hour for lunch. The wage rate shall be 113% of the straight time hourly wage rate and the supplemental benefits shall be paid at the straight time rate. When two (2) or more shifts of Carpenters are employed, single time will be paid for each shift.

(Carpenters District Council)

CARPENTER - HIGH RISE CONCRETE FORMS

(Excludes Engineered Structures and Building Foundations)

Carpenter High Rise A

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $51.48
Supplemental Benefit Rate per Hour: $44.74

Carpenter High Rise B

Carpenter High Rise B worker is excluded from high risk operations such as erection decking, perimeter debris netting, leading edge work, self-climbing form systems, and the installation of cocoon systems unless directly supervised by a Carpenter High Rise A worker.

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $40.89
Supplemental Benefit Rate per Hour: $18.05

Overtime

Time and one half the regular rate after an 8 hour day.
Time and one half the regular rate for Saturday.
Double time the regular rate for Sunday.
Saturday may be used as a make-up day at straight time when a day is lost during that week to inclement weather.

Overtime Holidays

Time and one half the regular rate for work on the following holiday(s).
New Year's Day
President's Day
Good Friday
Memorial Day
Independence Day
Labor Day
Columbus Day
Presidential Election Day
Thanksgiving Day
Christmas Day

Paid Holidays
None

Shift Rates
The second shift wage rate shall be 113% of the straight time hourly wage rate. However, any shift beginning after 5:00 P.M. shall be paid at time and one half the regular hourly rate. There must be a first shift in order to work a second shift. When it is not possible to conduct alteration or repair work during regular working hours in a building occupied by tenants, the rule for the second shift will apply.

(Carpenters District Council)

CARPENTER - SIDEWALK SHED, SCAFFOLD AND HOIST

Carpenter - Hod Hoist

(Assisted by Mason Tender)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $55.00
Supplemental Benefit Rate per Hour: $48.90

Overtime
Time and one half the regular rate after an 8 hour day.
Time and one half the regular rate for Saturday.
Double time the regular rate for Sunday.
Saturday may be used as a make-up day at straight time when a day is lost during that week to inclement weather.

Overtime Holidays
Double time the regular rate for work on the following holiday(s).
New Year's Day
President's Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Presidential Election Day
Thanksgiving Day
Day after Thanksgiving
Christmas Day

Paid Holidays
None

Shift Rates

The second shift will receive 112% of the straight time hourly rate. Benefit fund contributions shall be paid at the straight time rate. There must be a first shift in order to work a second shift. When it is not possible to conduct alteration or repair work during regular working hours in a building occupied by tenants, the rule for the second shift will apply.

(Carpenters District Council)

CARPENTER - WOOD WATER STORAGE TANK

Tank Mechanic

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $37.83
Supplemental Benefit Rate per Hour: $25.32

Tank Helper

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $29.69
Supplemental Benefit Rate per Hour: $25.32

Overtime

Time and one half the regular rate after an 8 hour day.
Time and one half the regular rate for Saturday.
Double time the regular rate for Sunday.
Time and one half the regular rate for work on a holiday plus the day's pay.

Paid Holidays

New Year's Day
President's Day
Good Friday
Memorial Day
Independence Day
Labor Day
Columbus Day
Thanksgiving Day
Day after Thanksgiving
1/2 day on Christmas Eve if work is performed in the A.M.
Christmas Day
1/2 day on New Year's Eve if work is performed in the A.M.

Vacation

Employed for one (1) year.....one (1) week vacation (40 hours)
Employed for three (3) years.....two (2) weeks vacation (80 hours)

Employed for more than twenty (20) years.....three (3) weeks vacation (120 hours)

SICK LEAVE:
Two (2) sick days after being employed for twenty (20) years.

(Carpenters District Council)

CEMENT & CONCRETE WORKER
Building Work

Cement & Concrete Worker

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $47.28
Supplemental Benefit Rate per Hour: $32.20
Supplemental Note: $36.70 on Saturdays; $41.20 on Sundays & Holidays

Cement & Concrete Worker - (Hired after 2/6/2016)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $36.80
Supplemental Benefit Rate per Hour: $24.20
Supplemental Note: $26.70 on Saturdays; $29.20 on Sundays & Holidays

Overtime Description
Time and one half the regular rate after 7 hour day (time and one half the regular rate after an 8 hour day when working with Dockbuilders on pile cap forms and for work below street level to the top of the foundation wall, not to exceed 2 feet or 3 feet above the sidewalk-brick shelf, when working on the foundation and structure.)

Overtime
Time and one half the regular rate for Saturday.
Double time the regular rate for Sunday.

Overtime Holidays
Double time the regular rate for work on the following holiday(s).
New Year's Day
President's Day
Good Friday
Memorial Day
Independence Day
Labor Day
Columbus Day
Presidential Election Day
Thanksgiving Day
Christmas Day

Paid Holidays
1/2 day before Christmas Day
1/2 day before New Year's Day

Shift Rates
On shift work extending over a twenty-four hour period, all shifts are paid at straight time.

(Cement & Concrete Workers District Council 16)

CEMENT MASON

Cement Mason

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $57.72
Supplemental Benefit Rate per Hour: $34.51
Supplemental Note: Supplemental benefit time and one half rate: $62.72; Double time rate: double the base supplemental benefit rate.

Overtime Description
Time and one-half the regular rate after an 8 hour day, double time the regular rate after 10 hours. Time and one-half the regular rate on Saturday, double time the regular rate after 10 hours. Double time the regular rate on Sunday. Four Days a week at Ten (10) hours straight time is allowed.

Overtime Holidays
Double time the regular rate for work on the following holiday(s).
New Year's Day
President's Day
Good Friday
Memorial Day
Independence Day
Labor Day
Columbus Day
Presidential Election Day
Thanksgiving Day
Christmas Day

Paid Holidays
Any worker who reports to work on Christmas Eve or New Year's Eve pursuant to his employer's instruction shall be entitled to three (3) hours afternoon pay without working.

Shift Rates
For off shift work, (at times other than the regular 7:00 A.M. to 3:30 P.M. work day) a cement mason shall be paid at the regular hourly rate plus a 25% per hour differential.

(Local #780) (BCA)

CORE DRILLER

Test Boring

Core Driller

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $46.25
Supplemental Benefit Rate per Hour: $33.36

Core Driller Helper

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $36.28
Supplemental Benefit Rate per Hour: $33.36

Core Driller Helper(Third year in the industry)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $32.62
Supplemental Benefit Rate per Hour: $33.36

Core Driller Helper (Second year in the industry)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $28.98
Supplemental Benefit Rate per Hour: $33.36

Core Driller Helper (First year in the industry)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $25.32
Supplemental Benefit Rate per Hour: $33.36

Overtime Description

Time and one half the regular rate for work on a holiday plus Holiday pay when worked.

Overtime

Time and one half the regular rate after an 8 hour day.
Time and one half the regular rate for Saturday.
Double time the regular rate for Sunday.
Time and one half the regular rate for work on the following holiday(s).

Paid Holidays
New Year's Day
Memorial Day
Independence Day
Labor Day
Veteran's Day
Thanksgiving Day
Christmas Day

Shift Rates
When two (2) or more shifts are employed, single time shall be paid for each shift, but those employees employed on a shift other than from 8:00 A.M. to 5:00 P.M. shall, in addition, receive two dollars ($2.00) per hour differential for each hour worked. When three (3) shifts are needed, each shift shall work seven and one-half (7 ½) hours paid for eight (8) hours of labor and be permitted one-half (½) hour for mealtime.

(Carpenters District Council)

DERRICKPERSON AND RIGGER

Derrick Person & Rigger

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $60.40
Supplemental Benefit Rate per Hour: $60.14

Derrick Person & Rigger - Site Work

Assists the Stone Mason-Setter in the setting of stone and paving stone.

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $47.54
Supplemental Benefit Rate per Hour: $47.70

Overtime Description
The first two hours of overtime on weekdays and the first seven hours of work on Saturdays are paid at time and one half for wages and supplemental benefits. All additional overtimes is paid at double time for wages and supplemental benefits.

Overtime
Double time the regular rate for Sunday.

Overtime Holidays
Double time the regular rate for work on the following holiday(s).
New Year's Day
Washington's Birthday

Good Friday
Memorial Day
Independence Day
Labor Day
Thanksgiving Day
Christmas Day

Paid Holidays

1/2 day on Christmas Eve if work is performed in the A.M.

(Local #197)

DIVER

Diver (Marine)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $75.46
Supplemental Benefit Rate per Hour: $55.84

Diver Tender (Marine)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $55.00
Supplemental Benefit Rate per Hour: $55.84

Overtime

Time and one half the regular rate after an 8 hour day.
Time and one half the regular rate for Saturday.
Double time the regular rate for Sunday.
Saturday may be used as a make-up day at straight time when a day is lost during that week to inclement weather.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).
New Year's Day
President's Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Presidential Election Day
Thanksgiving Day
Christmas Day

Paid Holidays

None

Shift Rates

When three shifts are utilized each shift shall work seven and one half-hours (7 1/2 hours) and paid for 8 hours, allowing for one half hour for lunch.

(Carpenters District Council)

DOCKBUILDER - PILE DRIVER

Dockbuilder - Pile Driver

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $60.59
Supplemental Benefit Rate per Hour: $55.84

Overtime

Time and one half the regular rate after an 8 hour day.
Time and one half the regular rate for Saturday.
Double time the regular rate for Sunday.
Saturday may be used as a make-up day at straight time when a day is lost during that week to inclement weather.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).
New Year's Day
President's Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Presidential Election Day
Thanksgiving Day
Christmas Day

Paid Holidays

None

Shift Rates

Off shift work commencing between 5:00 P.M. and 11:00 P.M. shall work eight and one half hours allowing for one half hour for lunch. The wage rate shall be 113% of the straight time hourly wage rate and the supplemental benefits shall be paid at the straight time rate. When two (2) or more shifts of Dockbuilders are employed, single time will be paid for each shift.

(Carpenters District Council)

DRIVER: TRUCK (TEAMSTER)

Driver - Dump Truck

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $44.17
Supplemental Benefit Rate per Hour: $59.15
Supplemental Note: Over 40 hours worked: at time and one half rate - $25.50; at double time rate - $34.00

Driver - Tractor Trailer

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $47.32
Supplemental Benefit Rate per Hour: $56.90
Supplemental Note: Over 40 hours worked: at time and one half rate - $25.50; at double time rate - $34.00

Driver - Euclid & Turnapull Operator

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $47.88
Supplemental Benefit Rate per Hour: $56.90
Supplemental Note: Over 40 hours worked: at time and one half rate - $25.50; at double time rate - $34.00

Overtime Description
For Paid Holidays: Holiday pay for all holidays shall be prorated based two hours per day for each day worked in the holiday week, not to exceed 8 hours of holiday pay. For Thanksgiving week, the prorated share shall be 5 1/3 hours of holiday pay for each day worked in Thanksgiving week.

Overtime
Time and one half the regular rate after an 8 hour day.
Time and one half the regular rate for Saturday.
Double time the regular rate for Sunday.

Overtime Holidays
Double time the regular rate for work on the following holiday(s).
New Year's Day
Martin Luther King Jr. Day
President's Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Veteran's Day
Thanksgiving Day
Christmas Day

Paid Holidays
New Year's Day
Martin Luther King Jr. Day
President's Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Veteran's Day
Thanksgiving Day
Christmas Day

Shift Rates
Off shift work commencing between 6:00 P.M. and 5:00 A.M. shall work eight and one half (8 1/2) hours allowing for one half hour for lunch

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Driver Redi-Mix (Sand & Gravel)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $43.29
Supplemental Benefit Rate per Hour: $50.77
Supplemental Note: Over 40 hours worked: time and one half rate $20.48; double time rate $27.30

Overtime Description
For Paid Holidays: Employees who do not work on a contractual holiday shall be compensated two (2) hours extra pay in straight time wages and benefits for every day on which the Employee does not pass up a day's work during the calendar week (Sunday through Saturday) of the holiday, up to a maximum of ten (10) hours in wages and eight (8) hours in benefit contributions for the holiday

Overtime
Time and one half the regular rate after an 8 hour day.
Time and one half the regular rate for Saturday.
Double time the regular rate for Sunday.

Overtime Holidays
Double time the regular rate for work on the following holiday(s).
Martin Luther King Jr. Day
President's Day
Columbus Day
Veteran's Day

Triple time the regular rate for work on the following holiday(s).
New Year's Day
Memorial Day
Independence Day
Labor Day
Thanksgiving Day
Christmas Day

Paid Holidays

New Year's Day
Martin Luther King Jr. Day
President's Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Election Day
Thanksgiving Day
Christmas Day

(Local #282)

ELECTRICIAN

(Including installation of low voltage cabling carrying data, video and/or voice on building construction/alteration/renovation projects.)

Electrician "A" (Regular Day / Day Shift)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $62.00
Supplemental Benefit Rate per Hour: $62.25
*** Supplemental Note: See Supplemental Benefit Rate per Hour Note below**

Electrician "A" (Regular Day Overtime after 7 hrs / Day Shift Overtime after 8 hrs)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $93.00
Supplemental Benefit Rate per Hour: $64.24
*** Supplemental Note: See Supplemental Benefit Rate per Hour Note below**

Electrician "A" (Swing Shift)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $72.75
Supplemental Benefit Rate per Hour: $70.56
*** Supplemental Note: See Supplemental Benefit Rate per Hour Note below**

Electrician "A" (Swing Shift Overtime after 7.5 hours)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $109.13
Supplemental Benefit Rate per Hour: $72.91

*** Supplemental Note: See Supplemental Benefit Rate per Hour Note below**

Electrician "A" (Graveyard Shift)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $81.49
Supplemental Benefit Rate per Hour: $77.61
*** Supplemental Note: See Supplemental Benefit Rate per Hour Note below**

Electrician "A" (Graveyard Shift Overtime after 7 hours)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $122.24
Supplemental Benefit Rate per Hour: $80.23
*** Supplemental Note: See Supplemental Benefit Rate per Hour Note below**

*** Supplemental Benefit Rate per Hour Note**
In addition to the Supplemental Benefit Rates per Hour listed above, the employer must provide an additional 6.2% of taxable gross pay earned on covered work only. This additional Supplemental Benefit Rate will terminate when the employee has contributed the maximum annual Social Security tax required by law, on all work performed.

Overtime
Time and one half the regular rate after a 7 hour day.
Time and one half the regular rate for Saturday.
Time and one half the regular rate for Sunday.

Overtime Holidays
Time and one half the regular rate for work on a holiday.
New Year's Day
Martin Luther King Jr. Day
President's Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Veteran's Day
Thanksgiving Day
Day after Thanksgiving
Christmas Day

Paid Holidays
None

Shift Rates
For multiple shifts of temporary light and/or power, the temporary light and/or power employee shall be paid for 8 hours at the straight time rate. For three or less workers performing 8 hours temporary light and/or power the supplemental benefit rate is $24.36, effective 04/13/2023 the supplemental benefit rate is $24.78 - See * Supplemental Benefit Rate per Hour Note above.

Electrician "M" (First 8 hours)

"M" rated work shall be defined as jobbing: electrical work of limited duration and scope, also consisting of repairs and/or replacement of electrical and tele-data equipment. Includes all work necessary to retrofit, service, maintain and repair all kinds of lighting fixtures and local lighting controls and washing and cleaning of foregoing fixtures.

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $32.00
Supplemental Benefit Rate per Hour: $27.20
First and Second Year "M" Wage Rate Per Hour: $27.50
First and Second Year "M" Supplemental Rate: $24.79

Electrician "M" (Overtime After First 8 hours)

"M" rated work shall be defined as jobbing: electrical work of limited duration and scope, also consisting of repairs and/or replacement of electrical and tele-data equipment. Includes all work necessary to retrofit, service, maintain and repair all kinds of lighting fixtures and local lighting controls and washing and cleaning of foregoing fixtures.

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $48.00
Supplemental Benefit Rate per Hour: $29.23
First and Second Year "M" Wage Rate Per Hour: $41.25
First and Second Year "M" Supplemental Rate: $26.52

Overtime
Time and one half the regular rate after an 8 hour day.
Time and one half the regular rate for Saturday.
Time and one half the regular rate for Sunday.

Overtime Holidays
Time and one half the regular rate for work on the following holiday(s).
New Year's Day
Martin Luther King Jr. Day
President's Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Veteran's Day
Thanksgiving Day
Day after Thanksgiving
Christmas Day

Paid Holidays
None

(Local #3)

ELECTRICIAN - ALARM TECHNICIAN

(Scope of Work - Inspect, test, repair, and replace defective, malfunctioning, or broken devices, components and controls of Fire, Burglar and Security Systems)

Alarm Technician

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $37.40
Supplemental Benefit Rate per Hour: $21.44
Supplemental Note: $19.31 only after 8 hours worked in a day

Overtime Description

Time and one half the regular rate for work on the following holidays: Columbus Day, Veterans Day, Day after Thanksgiving.
Double time the regular rate for work on the following holidays: New Year's day, Martin Luther King Jr. Day, President's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Christmas Day.

Overtime

Time and one half the regular rate after an 8 hour day.
Time and one half the regular rate for Saturday.
Time and one half the regular rate for Sunday.

Paid Holidays

New Year's Day
Martin Luther King Jr. Day
President's Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Veteran's Day
Thanksgiving Day
Day after Thanksgiving
Christmas Day

Shift Rates

Night Differential is based upon a ten percent (10%) differential between the hours of 4:00 P.M. and 12:30 A.M. and a fifteen percent (15%) differential for the hours 12:00 A.M. to 8:30 A.M.

Vacation

At least 1 year of employment.....ten (10) days
5 years or more of employment.....fifteen (15) days
10 years of employment.....twenty (20) days
Plus one Personal Day per year

Sick Days:
One day per Year. Up to 4 vacation days may be used as sick days.

(Local #3)

ELECTRICIAN-STREET LIGHTING WORKER

Electrician - Electro Pole Electrician

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $62.00
Supplemental Benefit Rate per Hour: $62.85
*** Supplemental Note: See Supplemental Benefit Rate per Hour Note below**

Electrician - Electro Pole Foundation Installer

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $47.66
Supplemental Benefit Rate per Hour: $48.72
*** Supplemental Note: See Supplemental Benefit Rate per Hour Note below**

Electrician - Electro Pole Maintainer

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $41.61
Supplemental Benefit Rate per Hour: $44.45
*** Supplemental Note: See Supplemental Benefit Rate per Hour Note below**

*** Supplemental Benefit Rate per Hour Note**
In addition to the Supplemental Benefit Rates per Hour listed above, the employer must provide an additional 6.2% of taxable gross pay earned on covered work only. This additional Supplemental Benefit Rate will terminate when the employee has contributed the maximum annual Social Security tax required by law, on all work performed.

Overtime Description

Electrician - Electro Pole Electrician: Time and one half the regular rate after a 7 hour day and after 5 consecutive days worked per week.
Electrician - Electro Pole Foundation Installer: Time and one half the regular rate after 8 hours within a 24 hour period and Saturday and Sunday.
Electrician - Electro Pole Maintainer: Time and one half the regular rate after a 7 hour day and after 5 consecutive days worked per week. Saturdays and Sundays may be used as a make-up day at straight time when a day is lost during the week to inclement weather.

Overtime Holidays

Time and one half the regular rate for work on the following holiday(s).
New Year's Day
Martin Luther King Jr. Day

President's Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Veteran's Day
Thanksgiving Day
Day after Thanksgiving
Christmas Day

Paid Holidays
None

(Local #3)

ELEVATOR CONSTRUCTOR

Elevator Constructor

Effective Period: 7/1/2024 - 3/16/2025
Wage Rate per Hour: $80.35
Supplemental Benefit Rate per Hour: $41.23

Effective Period: 3/17/2025 - 6/30/2025
Wage Rate per Hour: $83.27
Supplemental Benefit Rate per Hour: $42.33

Overtime Description
For New Construction: work performed after an 8 hour day, Saturday, Sunday or between 4:30pm and 7:00am shall be paid at double time rate.

Existing buildings: work performed after an 8 hour day, Saturday, Sunday or between 5:30pm and 7:00 am shall be paid time and one half.

Overtime
Double time the regular rate for work on the following holiday(s).

Paid Holidays
New Year's Day
President's Day
Good Friday
Memorial Day
Independence Day
Labor Day
Columbus Day
Veteran's Day

Thanksgiving Day
Day after Thanksgiving
Christmas Day

Vacation
Employer contributes 8% of regular basic hourly rate as vacation pay for employees with more than 15 years of service, and 6% for employees with 5 to 15 years of service, and 4% for employees with less than 5 years of service.

(Local #1)

ELEVATOR REPAIR & MAINTENANCE

Elevator Service/Modernization Mechanic

Effective Period: 7/1/2024 - 3/16/2025
Wage Rate per Hour: $63.16
Supplemental Benefit Rate per Hour: $41.18

Effective Period: 3/17/2025 - 6/30/2025
Wage Rate per Hour: $65.54
Supplemental Benefit Rate per Hour: $42.28

Overtime Description
For Scheduled Service Work: Double time - work scheduled in advance by two or more workers performed on Sundays, Holidays, and between midnight and 7:00am.

Overtime
Time and one half the regular rate after an 8 hour day.
Time and one half the regular rate for Saturday.
Time and one half the regular rate for Sunday.
Time and one half the regular rate for work on a holiday plus the day's pay.

Paid Holidays
New Year's Day
President's Day
Good Friday
Memorial Day
Independence Day
Labor Day
Columbus Day
Veteran's Day
Thanksgiving Day
Day after Thanksgiving
Christmas Day

Shift Rates

Afternoon shift - regularly hourly rate plus a (15%) fifteen percent differential. Graveyard shift - time and one half the regular rate.

Vacation

Employer contributes 8% of regular basic hourly rate as vacation pay for employees with more than 15 years of service, and 6% for employees with 5 to 15 years of service, and 4% for employees with less than 5 years of service.

(Local #1)

ENGINEER

Engineer - Heavy Construction Operating Engineer I

Cherrypickers 20 tons and over and Loaders (rubber tired and/or tractor type with a manufacturer's minimum rated capacity of six cubic yards and over).

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $76.57
Supplemental Benefit Rate per Hour: $48.85
Supplemental Note: $90.30 on overtime
Shift Wage Rate: $122.51

Engineer - Heavy Construction Operating Engineer II

Backhoes, Basin Machines, Groover, Mechanical Sweepers, Bobcat, Boom Truck, Barrier Transport (Barrier Mover) & machines of similar nature. Operation of Churn Drills and machines of a similar nature, Stetco Silent Hoist and machines of similar nature, Vac-Alls, Meyers Machines, John Beam and machines of a similar nature, Ross Carriers and Travel Lifts and machines of a similar nature, Bulldozers, Scrapers and Turn-a-Pulls: Tugger Hoists (Used exclusively for handling excavated material); Tractors with attachments, Hyster and Roustabout Cranes, Cherrypickers. Austin Western, Grove and machines of a similar nature, Scoopmobiles, Monorails, Conveyors, Trenchers: Loaders-Rubber Tired and Tractor: Barber Greene and Eimco Loaders and Eimco Backhoes; Mighty Midget and similar breakers and Tampers, Curb and Gutter Pavers and Motor Patrol, Motor Graders and all machines of a similar nature. Locomotives 10 Tons or under. Mini-Max, Break-Tech and machines of a similar nature; Milling machines, robotic and demolition machines and machines of a similar nature, shot blaster, skid steer machines and machines of a similar nature including bobcat, pile rig rubber-tired excavator (37,000 lbs. and under), 2 person auger.

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $74.14
Supplemental Benefit Rate per Hour: $48.85
Supplemental Note: $90.30 on overtime
Shift Wage Rate: $118.62

Engineer - Heavy Construction Operating Engineer III

Minor Equipment such as Tractors, Post Hole Diggers, Ditch Witch (Walk Behind), Road Finishing Machines, Rollers five tons and under, Tugger Hoists, Dual Purpose Trucks, Fork Lifts, and Dempsey Dumpers, Fireperson.

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $70.09
Supplemental Benefit Rate per Hour: $48.85
Supplemental Note: $90.30 on overtime
Shift Wage Rate: $112.14

Engineer - Heavy Construction Maintenance Engineer I

Installing, Repairing, Maintaining, Dismantling of all equipment including Steel Cutting, Bending and Heat Sealing Machines, Mechanical Heaters, Grout Pumps, Bentonite Pumps & Plants, Screening Machines, Fusion Coupling Machines, Tunnel Boring Machines Moles and Machines of a similar nature, Power Packs, Mechanical Hydraulic Jacks; all drill rigs including but not limited to Churn, Rotary Caisson, Raised Bore & Drills of a similar nature; Personnel, Inspection & Safety Boats or any boats used to perform functions of same, Mine Hoists, Whirlies, all Climbing Cranes, all Tower Cranes, including but not limited to Truck Mounted and Crawler Type and machines of similar nature; Maintaining Hydraulic Drills and machines of a similar nature; Well Point System-Installation and dismantling; Burning, Welding, all Pumps regardless of size and/or motor power, except River Cofferdam Pumps and Wells Point Pumps; Motorized Buggies (three or more); equipment used in the cleaning and televising of sewers, but not limited to jet-rodder/vacuum truck, vacall/vactor, closed circuit television inspection equipment; high powered water pumps, jet pumps; screed machines and concrete finishing machines of a similar nature; vermeers.

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $73.76
Supplemental Benefit Rate per Hour: $48.85
Supplemental Note: $90.30 on overtime
Shift Wage Rate: $118.02

Engineer - Heavy Construction Maintenance Engineer II

On Base Mounted Tower Cranes

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $98.47
Supplemental Benefit Rate per Hour: $48.85
Supplemental Note: $90.30 on overtime
Shift Wage Rate: $157.55

Engineer - Heavy Construction Maintenance Engineer III

On Generators, Light Towers

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $46.95
Supplemental Benefit Rate per Hour: $48.85
Supplemental Note: $90.30 on overtime
Shift Wage Rate: $75.12

Engineer - Heavy Construction Maintenance Engineer IV

On Pumps and Mixers including mud sucking

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $48.29
Supplemental Benefit Rate per Hour: $48.85
Supplemental Note: $90.30 on overtime
Shift Wage Rate: $77.26

Engineer - Heavy Construction Service Engineer

Gradalls: Concrete Pumps: Power Houses: Driving Truck Cranes: Driving and Operating Fuel and Grease Trucks.

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $65.99
Supplemental Benefit Rate per Hour: $48.85
Supplemental Note: $90.30 on overtime
Shift Wage Rate: $105.58

Engineer - Heavy Construction Service Mechanic

Shovels: Cranes: Draglines: Backhoes: Keystones: Pavers: Trenching Machines: Gunite Machines: Compressors (three (3) or more in Battery): Crawler Cranes- having a straight lattice boom with no attachment or luffing boom, no jib and no auxiliary attachment.

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $44.09
Supplemental Benefit Rate per Hour: $48.85
Supplemental Note: $90.30 on overtime
Shift Wage Rate: $70.54

Engineer - Steel Erection Maintenance Engineers

Derrick, Travelers, Tower, Crawler Tower and Climbing Cranes

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $70.95
Supplemental Benefit Rate per Hour: $48.85
Supplemental Note: $90.30 on overtime
Shift Wage Rate: $113.52

Engineer - Steel Erection Oiler I

On a Truck Crane

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $66.10
Supplemental Benefit Rate per Hour: $48.85
Supplemental Note: $90.30 on overtime
Shift Wage Rate: $105.76

Engineer - Steel Erection Oiler II

On a Crawler Crane

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $47.74
Supplemental Benefit Rate per Hour: $48.85
Supplemental Note: $90.30 on overtime
Shift Wage Rate: $76.38

Overtime Description
On jobs of more than one shift, if the next shift employee fails to report for work through any cause over which the employer has no control, the employee on duty who works the next shift continues to work at the single time rate.

Overtime
Double time the regular rate after an 8 hour day.
Double time the regular time rate for Saturday.
Double time the regular rate for Sunday.
Double time the regular rate for work on the following holiday(s).

Paid Holidays
New Year's Day
Martin Luther King Jr. Day
President's Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Veteran's Day
Thanksgiving Day
Day after Thanksgiving
Christmas Day

Engineer - Building Work Maintenance Engineers I

Installing, repairing, maintaining, dismantling (of all equipment including: Steel Cutting and Bending Machines, Mechanical Heaters, Mine Hoists, Climbing Cranes, Tower Cranes, Linden Peine, Lorain, Liebherr, Mannes, or machines of a similar nature, Well Point Systems, Deep Well Pumps, Concrete Mixers with loading Device, Concrete Plants, Motor Generators when used for temporary power and lights), skid steer machines of a similar nature including bobcat.

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $62.34
Supplemental Benefit Rate per Hour: $47.94
Supplemental Note: $88.48 on overtime

Engineer - Building Work Maintenance Engineers II

On Pumps, Generators, Mixers and Heaters

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $47.29
Supplemental Benefit Rate per Hour: $47.94
Supplemental Note: $88.48 on overtime

Engineer - Building Work Oilers I

All gasoline, electric, diesel or air operated Gradealls: Concrete Pumps, Overhead Cranes in Power Houses: Their duties shall be to assist the Engineer in oiling, greasing and repairing of all machines; Driving Truck Cranes: Driving and Operating Fuel and Grease Trucks, Cherrypickers (hydraulic cranes) over 70,000 GVW, and machines of a similar nature.

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $59.02
Supplemental Benefit Rate per Hour: $47.94
Supplemental Note: $88.48 on overtime

Engineer - Building Work Oilers II

Oilers on Crawler Cranes, Backhoes, Trenching Machines, Gunite Machines, Compressors (three or more in Battery).

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $42.55
Supplemental Benefit Rate per Hour: $47.94
Supplemental Note: $88.48 on overtime

Overtime Description
On jobs of more than one shift, if an Employee fails to report for work through any cause over which the Employer has no control, the Employee on duty will continue to work at the rate of single time.

Overtime
Double time the regular rate after an 8 hour day.
Double time the regular time rate for Saturday.
Double time the regular rate for Sunday.
Double time the regular rate for work on the following holiday(s).

Paid Holidays
New Year's Day
Martin Luther King Jr. Day
President's Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Veteran's Day
Thanksgiving Day

Christmas Day

Shift Rates
When two (2) or more shifts are employed, single time will be paid for each shift.

(Local #15)

ENGINEER - CITY SURVEYOR AND CONSULTANT

Party Chief

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $44.73
Supplemental Benefit Rate per Hour: $28.36
Supplemental Note: Overtime Benefit Rate - $33.87 per hour (time & one half) $39.37 per hour (double time).

Instrument Person

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $36.30
Supplemental Benefit Rate per Hour: $28.36
Supplemental Note: Overtime Benefit Rate - $33.87 per hour (time & one half) $39.37 per hour (double time).

Rodperson

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $30.97
Supplemental Benefit Rate per Hour: $28.36
Supplemental Note: Overtime Benefit Rate - $33.87 per hour (time & one half) $39.37 per hour (double time).

Rodperson 1st Year

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $25.00
Supplemental Benefit Rate per Hour: $28.36
Supplemental Note: Overtime Benefit Rate - $33.87 per hour (time & one half) $39.37 per hour (double time).

Overtime Description
Time and one half the regular rate after an 8 hour day, Time and one half the regular rate for Saturday for the first eight hours worked, Double time the regular time rate for Saturday for work performed in excess of eight hours, Double time the regular rate for Sunday and Double time the regular rate for work on a holiday.

Paid Holidays
New Year's Day

Lincoln's Birthday
President's Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Veteran's Day
Thanksgiving Day
Day after Thanksgiving
Christmas Day
Employees must work at least one day in the payroll week in which the holiday occurs to receive the paid holiday

(Operating Engineer Local #15-D)

ENGINEER - FIELD (BUILDING CONSTRUCTION)

(Construction of Building Projects, Concrete Superstructures, etc.)

Field Engineer - BC Party Chief

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $68.86
Supplemental Benefit Rate per Hour: $43.03
Supplemental Note: Overtime Benefit Rate - $60.85 per hour (time & one half) $78.66 per hour (double time).

Field Engineer - BC Instrument Person

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $50.03
Supplemental Benefit Rate per Hour: $43.03
Supplemental Note: Overtime Benefit Rate - $60.85 per hour (time & one half) $78.66 per hour (double time).

Field Engineer - BC Rodperson

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $30.96
Supplemental Benefit Rate per Hour: $43.03
Supplemental Note: Overtime Benefit Rate - $60.85 per hour (time & one half) $78.66 per hour (double time).

Overtime Description

Time and one half the regular rate after a 7 hour work and time and one half the regular rate for Saturday for the first seven hours worked, Double time the regular time rate for Saturday for work performed in excess of seven hours, Double time the regular rate for Sunday and Double time the regular rate for work on a holiday.

Paid Holidays

New Year's Day
President's Day
Good Friday
Memorial Day
Independence Day
Labor Day
Columbus Day
Veteran's Day
Thanksgiving Day
Christmas Day
Employees must work at least one day in the payroll week in which the holiday occurs to receive the paid holiday

(Operating Engineer Local #15-D)

ENGINEER - FIELD (HEAVY CONSTRUCTION)

(Construction of Roads, Tunnels, Bridges, Sewers, Building Foundations, Engineering Structures etc.)

Field Engineer - HC Party Chief

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $79.02
Supplemental Benefit Rate per Hour: $46.67
Supplemental Note: Overtime benefit rate - $66.19 per hour (time & one half), $85.70 per hour (double time).

Field Engineer - HC Instrument Person

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $56.62
Supplemental Benefit Rate per Hour: $46.67
Supplemental Note: Overtime benefit rate - $66.19 per hour (time & one half), $85.70 per hour (double time).

Field Engineer - HC Rodperson

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $46.66
Supplemental Benefit Rate per Hour: $46.67
Supplemental Note: Overtime benefit rate - $66.19 per hour (time & one half), $85.70 per hour (double time).

Field Engineer - HC Rodperson 1st Year

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $25.00
Supplemental Benefit Rate per Hour: $46.67

Supplemental Note: Overtime benefit rate - $66.19 per hour (time & one half), $85.70 per hour (double time).

Overtime Description

Time and one half the regular rate after an 8 hour day, Time and one half the regular rate for Saturday for the first eight hours worked, Double time the regular time rate for Saturday for work performed in excess of eight hours, Double time the regular rate for Sunday and Double time the regular rate for work on a holiday.

Paid Holidays

New Year's Day
Martin Luther King Jr. Day
President's Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Veteran's Day
Thanksgiving Day
Christmas Day
Employees must work at least one day in the payroll week in which the holiday occurs to receive the paid holiday

(Operating Engineer Local #15-D)

ENGINEER - FIELD (STEEL ERECTION)

Field Engineer - Steel Erection Party Chief

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $74.95
Supplemental Benefit Rate per Hour: $45.01
Supplemental Note: Overtime benefit rate - $63.69 per hour (time & one half), $82.37 per hour (double time).

Field Engineer - Steel Erection Instrument Person

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $56.03
Supplemental Benefit Rate per Hour: $45.01
Supplemental Note: Overtime benefit rate - $63.69 per hour (time & one half), $82.37 per hour (double time).

Field Engineer - Steel Erection Rodperson

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $36.15
Supplemental Benefit Rate per Hour: $45.01
Supplemental Note: Overtime benefit rate - $63.69 per hour (time & one half), $82.37 per hour (double time).

Field Engineer - Steel Erection Rodperson 1st Year

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $25.00
Supplemental Benefit Rate per Hour: $45.01
Supplemental Note: Overtime benefit rate - $63.69 per hour (time & one half), $82.37 per hour (double time).

Overtime Description
Time and one half the regular rate for Saturday for the first eight hours worked.
Double time the regular rate for Saturday for work performed in excess of eight hours.

Overtime
Time and one half the regular rate after an 8 hour day.
Double time the regular rate for Sunday.
Double time the regular rate for work on the following holiday(s).

Paid Holidays
New Year's Day
Lincoln's Birthday
President's Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Veteran's Day
Thanksgiving Day
Christmas Day
Employees must work at least one day in the payroll week in which the holiday occurs to receive the paid holiday

(Operating Engineer Local #15-D)

ENGINEER - OPERATING

Operating Engineer - Road & Heavy Construction I

Back Filling Machines, Cranes, Mucking Machines and Dual Drum Paver.

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $92.72
Supplemental Benefit Rate per Hour: $36.90
Supplemental Note: $67.50 overtime hours
Shift Wage Rate: $148.35

Operating Engineer - Road & Heavy Construction II

Backhoes, Power Shovels, Hydraulic Clam Shells, Steel Erection, Moles and machines of a similar nature.

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $95.96
Supplemental Benefit Rate per Hour: $36.90
Supplemental Note: $67.50 overtime hours
Shift Wage Rate: $153.54

Operating Engineer - Road & Heavy Construction III

Mine Hoists (Cranes, etc. when used as Mine Hoists)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $99.01
Supplemental Benefit Rate per Hour: $36.90
Supplemental Note: $67.50 overtime hours
Shift Wage Rate: $158.42

Operating Engineer - Road & Heavy Construction IV

Gradealls, Keystones, Cranes on land or water (with digging buckets), Bridge Cranes, Vermeer Cutter and machines of a similar nature, Trenching Machines.

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $96.64
Supplemental Benefit Rate per Hour: $36.90
Supplemental Note: $67.50 overtime hours
Shift Wage Rate: $154.62

Operating Engineer - Road & Heavy Construction V

Pile Drivers & Rigs (working alongside Dock Builder foreperson): Derrick Boats, Tunnel Shovels.

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $94.76
Supplemental Benefit Rate per Hour: $36.90
Supplemental Note: $67.50 overtime hours
Shift Wage Rate: $151.62

Operating Engineer - Road & Heavy Construction VI

Mixers (Concrete with loading attachment), Concrete Pavers, Cableways, Land Derricks, Power Houses (Low Air Pressure Units).

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $90.08
Supplemental Benefit Rate per Hour: $36.90
Supplemental Note: $67.50 overtime hours
Shift Wage Rate: $144.13

Operating Engineer - Road & Heavy Construction VII

Barrier Movers, Barrier Transport and Machines of a Similar Nature.

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $73.00
Supplemental Benefit Rate per Hour: $36.90
Supplemental Note: $67.50 overtime hours
Shift Wage Rate: $116.80

Operating Engineer - Road & Heavy Construction VIII

Utility Compressors

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $56.95
Supplemental Benefit Rate per Hour: $36.90
Supplemental Note: $67.50 overtime hours
Shift Wage Rate: $71.45

Operating Engineer - Road & Heavy Construction IX

Horizontal Boring Rig

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $85.75
Supplemental Benefit Rate per Hour: $36.90
Supplemental Note: $67.50 overtime hours
Shift Wage Rate: $137.20

Operating Engineer - Road & Heavy Construction X

Elevators (manually operated as personnel hoist).

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $78.92
Supplemental Benefit Rate per Hour: $36.90
Supplemental Note: $67.50 overtime hours
Shift Wage Rate: $126.27

Operating Engineer - Road & Heavy Construction XI

Compressors (Portable 3 or more in battery), Driving of Truck Mounted Compressors, Well-point Pumps, Tugger Machines Well Point Pumps, Churn Drill.

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $61.57
Supplemental Benefit Rate per Hour: $36.90
Supplemental Note: $67.50 overtime hours
Shift Wage Rate: $98.51

Operating Engineer - Road & Heavy Construction XII

All Drills and Machines of a similar nature.

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $91.03
Supplemental Benefit Rate per Hour: $36.90
Supplemental Note: $67.50 overtime hours
Shift Wage Rate: $145.65

Operating Engineer - Road & Heavy Construction XIII

Concrete Pumps, Concrete Plant, Stone Crushers, Double Drum Hoist, Power Houses (other than above).

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $88.22
Supplemental Benefit Rate per Hour: $36.90
Supplemental Note: $67.50 overtime hours
Shift Wage Rate: $141.15

Operating Engineer - Road & Heavy Construction XIV

Concrete Mixer

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $84.38
Supplemental Benefit Rate per Hour: $36.90
Supplemental Note: $67.50 overtime hours
Shift Wage Rate: $135.01

Operating Engineer - Road & Heavy Construction XV

Compressors (Portable Single or two in Battery, not over 100 feet apart), Pumps (River Cofferdam) and Welding Machines, Push Button Machines, All Engines Irrespective of Power (Power-Pac) used to drive auxiliary equipment, Air, Hydraulic, etc.

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $57.32
Supplemental Benefit Rate per Hour: $36.90
Supplemental Note: $67.50 overtime hours
Shift Wage Rate: $91.71

Operating Engineer - Road & Heavy Construction XVI

Concrete Breaking Machines, Hoists (Single Drum), Load Masters, Locomotives (over ten tons) and Dinkies over ten tons, Hydraulic Crane-Second Engineer.

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $80.64
Supplemental Benefit Rate per Hour: $36.90

Supplemental Note: $67.50 overtime hours
Shift Wage Rate: $129.02

Operating Engineer - Road & Heavy Construction XVII

On-Site concrete plant engineer, On-site Asphalt Plant Engineer, and Vibratory console.

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $81.22
Supplemental Benefit Rate per Hour: $36.90
Supplemental Note: $67.50 overtime hours
Shift Wage Rate: $129.95

Operating Engineer - Road & Heavy Construction XVIII

Tower Crane

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $116.04
Supplemental Benefit Rate per Hour: $36.90
Supplemental Note: $67.50 overtime hours
Shift Wage Rate: $185.66

Operating Engineer - Paving I

Asphalt Spreaders, Autogrades (C.M.I.), Roto/Mil

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $90.08
Supplemental Benefit Rate per Hour: $36.90
Supplemental Note: $67.50 overtime hours
Shift Wage Rate: $144.13

Operating Engineer - Paving II

Asphalt Roller

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $87.81
Supplemental Benefit Rate per Hour: $36.90
Supplemental Note: $67.50 overtime hours
Shift Wage Rate: $140.50

Operating Engineer - Paving III

Asphalt Plants

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $74.42

Supplemental Benefit Rate per Hour: $36.90
Supplemental Note: $67.50 overtime hours
Shift Wage Rate: $119.07

Operating Engineer - Concrete I

Cranes

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $96.22
Supplemental Benefit Rate per Hour: $36.90
Supplemental Note: $67.50 overtime hours

Operating Engineer - Concrete II

Compressors

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $57.75
Supplemental Benefit Rate per Hour: $36.90
Supplemental Note: $67.50 overtime hours

Operating Engineer - Concrete III

Micro-traps (Negative Air Machines), Vac-All Remediation System.

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $77.14
Supplemental Benefit Rate per Hour: $36.90
Supplemental Note: $67.50 overtime hours

Operating Engineer - Steel Erection I

Three Drum Derricks

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $100.14
Supplemental Benefit Rate per Hour: $36.90
Supplemental Note: $67.50 overtime hours
Shift Wage Rate: $160.22

Operating Engineer - Steel Erection II

Cranes, 2 Drum Derricks, Hydraulic Cranes, Fork Lifts and Boom Trucks.

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $96.26
Supplemental Benefit Rate per Hour: $36.90
Supplemental Note: $67.50 overtime hours
Shift Wage Rate: $154.02

Operating Engineer - Steel Erection III

Compressors, Welding Machines.

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $56.34
Supplemental Benefit Rate per Hour: $36.90
Supplemental Note: $67.50 overtime hours
Shift Wage Rate: $90.14

Operating Engineer - Steel Erection IV

Compressors - Not Combined with Welding Machine. (Public Works Only)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $53.69
Supplemental Benefit Rate per Hour: $36.90
Supplemental Note: $67.50 overtime hours
Shift Wage Rate: $85.90

Operating Engineer - Building Work I

Forklifts, Plaster (Platform machine), Plaster Bucket, Concrete Pump and all other equipment used for hoisting material.

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $73.52
Supplemental Benefit Rate per Hour: $36.90
Supplemental Note: $67.50 overtime hours

Operating Engineer - Building Work II

Compressors, Welding Machines (Cutting Concrete-Tank Work), Paint Spraying, Sandblasting, Pumps (with the exclusion of Concrete Pumps), All Engines irrespective of Power (Power-Pac) used to drive Auxiliary Equipment, Air, Hydraulic, Jacking System, etc.

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $55.18
Supplemental Benefit Rate per Hour: $36.90
Supplemental Note: $67.50 overtime hours

Operating Engineer - Building Work III

Double Drum

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $91.26
Supplemental Benefit Rate per Hour: $36.90
Supplemental Note: $67.50 overtime hours

Operating Engineer - Building Work IV

Stone Derrick, Cranes, Hydraulic Cranes Boom Trucks.

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $96.60
Supplemental Benefit Rate per Hour: $36.90
Supplemental Note: $67.50 overtime hours

Operating Engineer - Building Work V

Dismantling and Erection of Cranes, Relief Engineer.

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $81.62
Supplemental Benefit Rate per Hour: $36.90
Supplemental Note: $67.50 overtime hours

Operating Engineer - Building Work VI

4 Pole Hoist, Single Drum Hoists.

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $80.76
Supplemental Benefit Rate per Hour: $36.90
Supplemental Note: $67.50 overtime hours

Operating Engineer - Building Work VII

Rack & Pinion and House Cars

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $64.33
Supplemental Benefit Rate per Hour: $36.90
Supplemental Note: $67.50 overtime hours
For New House Car projects Wage Rate per Hour $51.45
For New House Car projects: Supplemental Benefit overtime hours: $52.20

Overtime Description

On jobs of more than one shift, if an Employee fails to report for work through any cause over which the Employer has no control, the Employee on duty will continue to work at the rate of single time.

For House Cars and Rack & Pinion only: Overtime paid at time and one-half for all hours in excess of eight hours in a day, Saturday, Sunday and Holidays worked.

Overtime

Double time the regular rate after an 8 hour day.
Double time the regular time rate for Saturday.
Double time the regular rate for Sunday.
Double time the regular rate for work on the following holiday(s).

Paid Holidays

New Year's Day
Martin Luther King Jr. Day
President's Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Veteran's Day
Thanksgiving Day
Day after Thanksgiving
Christmas Day

Shift Rates

When two (2) or more shifts are employed, single time will be paid for each shift.
For Steel Erection Only: Shifts may be worked at the single time rate at other than the regular working hours (8:00 A.M. to 4:30 P.M.) on the following work ONLY: Heavy construction jobs on work below the street level, over railroad tracks and on building jobs.

(Operating Engineer Local #14)

FLAGGER

Flagger to be paid at the rate of the journeyperson or apprentice in the trade performing the underlying work.

In accordance with the Comptroller's Prevailing Wage Memorandum Regarding Flag Persons dated June 1, 2024, this title includes traffic control duty only for City public works contracts and subcontracts solicited on or after July 1, 2024.

On City public works contracts and subcontracts solicited on or after July 1, 2024, traffic control worker to be paid at the rate of the journeyperson or apprentice in the trade performing the underlying work.

If the trade performing the underlying work does not regularly employ a flagger or traffic control worker, then one of the following titles must be used on such projects:
Laborer - Heavy & Highway
Laborer - Paver & Roadbuilder
Laborer - Paver & Roadbuilder Line Striping (Roadway)

FLOOR COVERER

(Interior vinyl composition tile, sheath vinyl linoleum and wood parquet tile including site preparation and synthetic turf not including site preparation)

Floor Coverer

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $55.05
Supplemental Benefit Rate per Hour: $47.88

Overtime

Time and one half the regular rate after an 8 hour day.
Time and one half the regular rate for Saturday.
Double time the regular rate for Sunday.
Saturday may be used as a make-up day at straight time when a day is lost during that week to inclement weather.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).
New Year's Day
President's Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Presidential Election Day
Thanksgiving Day
Day after Thanksgiving
Day before Christmas
Christmas Day
Day before New Year's Day

Shift Rates

Two shifts may be utilized with the first shift working 8 a.m. to the end of the shift at straight time rate of pay. The wage rate for the second shift consisting of 7 hours shall be paid at 114.29% of straight time wage rate. The wage rate for the second shift consisting of 8 hours shall be paid 112.5% of the straight time wage rate. When it is not possible to conduct alteration or repair work during regular working hours in a building occupied by tenants, the rule for the second shift will apply.

(Carpenters District Council)

GLAZIER
(New Construction, Remodeling, and Alteration)

Glazier

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $49.00
Supplemental Benefit Rate per Hour: $55.77

Overtime
Time and one half the regular rate after an 8 hour day.
Time and one half the regular rate for Saturday.
Double time the regular rate for Sunday.

Overtime Holidays
Double time the regular rate for work on the following holiday(s).
New Year's Day
President's Day
Memorial Day
Labor Day
Thanksgiving Day
Day after Thanksgiving
Christmas Day

Paid Holidays
None

(Local #1281)

GLAZIER - REPAIR & MAINTENANCE
(For the Installation of Glass - All repair and maintenance work on a particular building.)

Craft Jurisdiction for repair, maintenance and fabrication

Plate glass replacement, Storm windows and storm doors, Herculite door repairs, Door closer repairs, Glass tinting.

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $27.45
Supplemental Benefit Rate per Hour: $27.93

Overtime
Time and one half the regular rate after an 8 hour day.
Double time the regular rate for Sunday.
Time and one half the regular rate for work on the following holiday(s).
Time and one half the regular hourly rate after 40 straight time hours in any work week.

Paid Holidays
New Year's Day
President's Day
Memorial Day
Independence Day
Labor Day
Thanksgiving Day
Day after Thanksgiving
Christmas Day
Employees must work at least one day in the payroll week in which the holiday occurs to receive the paid holiday

(Local #1281)

HAZARDOUS MATERIAL HANDLER
(Removal, abatement, encapsulation or decontamination of asbestos, lead, mold, or other toxic or hazardous waste/materials)

Handler

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $39.00
Supplemental Benefit Rate per Hour: $21.65

Overtime
Time and one half the regular rate after an 8 hour day.
Time and one half the regular rate for Sunday.
Time and one half the regular hourly rate after 40 straight time hours in any work week.

Overtime Holidays
Time and one half the regular rate for work on the following holiday(s).
New Year's Day
Good Friday
Memorial Day
Independence Day
Labor Day
Thanksgiving Day
Christmas Day
Easter

Paid Holidays
None

(Local #78 and Local #12A)

HEAT AND FROST INSULATOR

Heat & Frost Insulator

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $70.96
Supplemental Benefit Rate per Hour: $36.06

Overtime Description
Supplemental Benefit contributions are to be made at the applicable overtime rates.

Overtime
Time and one half the regular rate after an 8 hour day.
Time and one half the regular rate for Saturday.
Double time the regular rate for Sunday.

Overtime Holidays
Double time the regular rate for work on the following holiday(s).
New Year's Day
Martin Luther King Jr. Day
President's Day
Memorial Day
Independence Day
Columbus Day
Veteran's Day
Thanksgiving Day
Day after Thanksgiving
Christmas Day

Triple time the regular rate for work on the following holiday(s).
Labor Day

Paid Holidays
None

Shift Rates
The first shift shall work seven hours at the regular straight time rate. The second and third shift shall work seven hours the regular straight time hourly rate plus a fourteen percent wage and benefit premium. There must be a first shift to work the second shift, and a second shift to work the third shift. Off-hour jobs in occupied buildings may be worked on weekdays with an increment of one-dollar ($1.00) per hour and eight (8) hours pay for seven (7) hours worked.

(Local #12) (BCA)

HOUSE WRECKER
(TOTAL DEMOLITION)

House Wrecker - Tier A

On all work sites the first, second, eleventh and every third House Wrecker thereafter will be Tier A House Wreckers (i.e. 1st, 2nd, 11th, 14th etc). Other House Wreckers may be Tier B House Wreckers.

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $39.48
Supplemental Benefit Rate per Hour: $31.92

House Wrecker - Tier B

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $28.71
Supplemental Benefit Rate per Hour: $24.33

Overtime
Time and one half the regular rate after an 8 hour day.
Time and one half the regular rate for Saturday.
Double time the regular rate for Sunday.

Overtime Holidays
Double time the regular rate for work on the following holiday(s).
New Year's Day
President's Day
Memorial Day
Independence Day
Labor Day
Thanksgiving Day
Christmas Day

Paid Holidays
None

(Mason Tenders District Council)

IRON WORKER - ORNAMENTAL

Iron Worker - Ornamental

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $47.65
Supplemental Benefit Rate per Hour: $65.75
Supplemental Note: Supplemental benefits are to be paid at the applicable overtime rate when overtime is in effect.

Overtime Description
Monday through Friday- the first eight hours are paid at straight time, the 9th and 10th hours are paid at time and one-half the regular rate, all additional weekday overtime is paid at double the regular rate. Saturdays- the first eight hours are paid at time and one-half the regular rate, double time thereafter. Sunday-all shifts are paid at double time. Four Days a week at Ten (10) hours straight time is allowed

Overtime
Double time the regular rate for Sunday.

Overtime Holidays
Double time the regular rate for work on the following holiday(s).
New Year's Day
President's Day
Memorial Day
Independence Day
Labor Day
Thanksgiving Day
Christmas Day

Paid Holidays
None

Shift Rates
When two or three shifts are employed on a job, Monday through Friday, each shift will be paid eight (8) hours at the straight time rate for eight (8) hours of work; at time and one-half the regular straight time rate for the first two (2) hours of overtime worked beyond eight (8) hours; and at double time for all work thereafter. When it is not possible to conduct alteration or repair work during regular working hours in a building occupied by tenants, eight (8) hours will be paid at straight time rate for seven (7) hours of work, and all overtime shall be paid at time and one-half the regular straight time rates. On Saturday, Sundays and Holidays, time and one-half the regular straight time rate shall be paid for all work up to seven (7) hours and double time shall be paid for all work thereafter.

(Local #580)

IRON WORKER - STRUCTURAL

Iron Worker - Structural

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $58.20
Supplemental Benefit Rate per Hour: $89.27
Supplemental Note: Supplemental benefits are to be paid at the applicable overtime rate when overtime is in effect.

Overtime Description
Monday through Friday- the first eight hours are paid at straight time, the 9th and 10th hours are paid at time and one-half the regular rate, all additional weekday overtime is paid at double the regular rate. Saturdays- the first eight hours are paid at time and one-half the regular rate, double time thereafter. Sunday-all shifts are paid at double time. Four Days a week at Ten (10) hours straight time is allowed.

Overtime
Time and one half the regular rate after an 8 hour day.
Time and one half the regular rate for Saturday.
Double time the regular rate for Sunday.

Overtime Holidays
Double time the regular rate for work on the following holiday(s).
New Year's Day
President's Day
Memorial Day
Independence Day
Labor Day
Thanksgiving Day
Christmas Day

Paid Holidays
1/2 day on Christmas Eve if work is performed in the A.M.
1/2 day on New Year's Eve if work is performed in the A.M.

Shift Rates
Monday through Friday - First Shift: First eight hours are paid at straight time, the 9th & 10th hours are paid at time and a half, double time paid thereafter. Second and third Shifts: First eight hours are paid at time and one-half, double time thereafter. Saturdays: All shifts, first eight hours paid at time and one-half, double time thereafter: Sunday all shifts are paid at double time.

Four (4), ten (10) hour days may be worked at straight time during a week, Monday thru Thursday.

(Local #40 & #361)

LABORER – HEAVY & HIGHWAY

(Foundation, Concrete, Excavating, Street Pipe Layer and Common)

Laborer - Heavy & Highway

Excavation and foundation work for buildings, heavy construction, street pipe laying, engineering work, and hazardous waste removal in connection with the above work. Landscaping tasks in connection with heavy construction work, engineering work and building projects. Projects include, but are not limited to pollution plants, sewers, parks, subways, bridges, highways, etc. In accordance with the Comptroller's Prevailing Wage Memorandum Regarding Flag Persons dated June 1, 2024, for City public work contracts and subcontracts solicited on or after July 1, 2024 only, includes traffic control duty associated with such projects.

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $45.00
Supplemental Benefit Rate per Hour: $54.03

Overtime

Time and one half the regular rate after an 8 hour day.
Time and one half the regular rate for Saturday.
Double time the regular rate for Sunday.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).
New Year's Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Thanksgiving Day
Christmas Day

Paid Holidays

Labor Day
Thanksgiving Day

Shift Rates

When two shifts are employed, single time rate shall be paid for each shift. When three shifts are found necessary, each shift shall work seven and one half hours (7 ½), but shall be paid for eight (8) hours of labor, and be permitted one half hour for lunch.

(Local #731)

LABORER - PAVER & ROADBUILDER

Laborer - Paver & Roadbuilder

Paving and road construction work, regardless of material used, including but not limited to preparation of job sites, removal of old surfaces, asphalt and/or concrete, by whatever method, including but not limited to milling; laying of concrete; laying of asphalt for temporary, patchwork, and utility paving (but not production paving); site preparation and incidental work for installation of rubberized materials and similar surfaces; installation and repair of temporary construction fencing; slurry/seal coating, paving stones, maintenance of safety surfaces; play equipment installation, and other related work. In accordance with the Comptroller's Prevailing Wage Memorandum Regarding Flag Persons dated June 1, 2024, for City public work contracts and subcontracts solicited on or after July 1, 2024 only, includes traffic control duty associated with such projects.

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $45.48
Supplemental Benefit Rate per Hour: $53.55
Supplemental Note: For time and one half overtime - $58.18 For double overtime - $62.80

Paver & Roadbuilder - Formsetter

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $49.35
Supplemental Benefit Rate per Hour: $53.55
Supplemental Note: For time and one half overtime - $58.18 For double overtime - $62.80

Production Paver & Roadbuilder - Shoveler

General laborer (except removal of surfaces - see Paver and Roadbuilder-Laborer) including but not limited to tamper, AC paint and liquid tar work.

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $45.48
Supplemental Benefit Rate per Hour: $53.55
Supplemental Note: For time and one half overtime - $58.18 For double overtime - $62.80

Production Paver & Roadbuilder - Raker

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $49.35
Supplemental Benefit Rate per Hour: $53.55
Supplemental Note: For time and one half overtime - $58.18 For double overtime - $62.80

Production Paver & Roadbuilder - Screed Person

(Production paving is asphalt paving when using a paving machine or on a project where a paving machine is traditionally used)

Adjustment of paving machinery on production paving jobs.

Effective Period: 7/1/2024 - 6/30/2025

Wage Rate per Hour: $49.95
Supplemental Benefit Rate per Hour: $53.55
Supplemental Note: For time and one half overtime - $58.18 For double overtime - $62.80

Overtime Description
If an employee works New Year's Day or Christmas Day, they receive the single time rate plus 25%.

For Paid Holidays: Holiday pay for all holidays shall be prorated based two hours per day for each day worked in the holiday week, not to exceed 8 hours of holiday pay.

Overtime
Time and one half the regular rate after an 8 hour day.
Time and one half the regular rate for Saturday.
Double time the regular rate for Sunday.

Overtime Holidays
Double time the regular rate for work on the following holiday(s).
Memorial Day
Independence Day
Labor Day
Columbus Day
Thanksgiving Day

Paid Holidays
Memorial Day
Independence Day
Labor Day
Thanksgiving Day

Shift Rates
When two shifts are employed, the work period for each shift shall be a continuous eight (8) hours. When three shifts are employed, each shift will work seven and one half (7 ½) hours but will be paid for eight (8) hours at the straight time rate since only one half (1/2) hour is allowed for meal time.
When two or more shifts are employed, single time will be paid for each shift.

(Local #1010)

LABORER - PAVER & ROADBUILDER LINE STRIPING (ROADWAY)
(Painting of traffic lines on roadways)

Striping - Machine Operator

Effective Period: 7/1/2024 - 6/30/2025

Wage Rate per Hour: $41.00
Supplemental Benefit Rate per Hour: $19.27
Supplemental Note: For time and one half overtime - $20.52 For double overtime - $21.77

Lineperson (Thermoplastic)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $45.00
Supplemental Benefit Rate per Hour: $19.27
Supplemental Note: For time and one half overtime - $20.52 For double overtime - $21.77

Laborer Striping Assistant & Traffic Safety

In accordance with the Comptroller's Prevailing Wage Memorandum Regarding Flag Persons dated June 1, 2024, for City public work contracts and subcontracts solicited on or after July 1, 2024 only, includes traffic control duty associated with such projects.

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $39.00
Supplemental Benefit Rate per Hour: $19.27
Supplemental Note: For time and one half overtime - $20.52 For double overtime - $21.77

Overtime Description
For Paid Holidays: Employees will only receive Holiday Pay for holidays not worked if said employee worked both the regularly scheduled workday before and after the holiday.

Overtime
Time and one half the regular rate after an 8 hour day.
Time and one half the regular rate for Saturday.
Time and one half the regular rate for Sunday.
Time and one half the regular rate for work on the following holiday(s).

Paid Holidays
New Year's Day
Good Friday
Memorial Day
Independence Day
Labor Day
Columbus Day
Presidential Election Day
Thanksgiving Day
Christmas Day

(Local #1010)

LANDSCAPING

(Landscaping tasks, such as tree pruning, tree removing and spraying in connection with Green Infrastructure maintenance and the planting of street trees and trees in City parks, but not when such activities are performed as part of construction or reconstruction projects.)

Landscaper (Year 6 and above)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $37.77
Supplemental Benefit Rate per Hour: $18.05

Landscaper (Year 3 - 5)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $36.56
Supplemental Benefit Rate per Hour: $18.05

Landscaper (up to 3 years)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $33.55
Supplemental Benefit Rate per Hour: $18.05

Groundperson

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $33.55
Supplemental Benefit Rate per Hour: $18.05

Tree Remover / Pruner

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $43.81
Supplemental Benefit Rate per Hour: $18.05

Landscaper Sprayer (Pesticide Applicator)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $31.75
Supplemental Benefit Rate per Hour: $18.05

Watering - Plant Maintainer

Effective Period: 7/1/2024 - 6/30/2025

Wage Rate per Hour: **$25.69**
Supplemental Benefit Rate per Hour: **$18.05**

Overtime Description
For all overtime work performed, supplemental benefits shall include an additional seventy-five ($0.75) cents per hour.

Overtime
Time and one half the regular rate after an 8 hour day.
Time and one half the regular rate for Saturday.
Double time the regular rate for Sunday.
Time and one half the regular rate for work on a holiday plus the day's pay.

Paid Holidays
New Year's Day
Memorial Day
Independence Day
Labor Day
Thanksgiving Day
Christmas Day

Shift Rates
Work performed on a 4pm to 12am shift has a 15% differential. Work performed on a 12am to 8am shift has a 20% differential.

(Local #175)

MARBLE MECHANIC

Marble Setter

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: **$58.92**
Supplemental Benefit Rate per Hour: **$44.01**

Marble Finisher

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: **$45.44**
Supplemental Benefit Rate per Hour: **$41.06**

Marble Polisher

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: **$44.47**

Supplemental Benefit Rate per Hour: **$33.96**

Marble Maintenance Finisher

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: **$27.72**
Supplemental Benefit Rate per Hour: **$15.31**

Overtime Description
Supplemental Benefit contributions are to be made at the applicable overtime rates.

Overtime
Time and one half the regular rate after an 8 hour day.
Time and one half the regular rate for Saturday.
Double time the regular rate for Sunday.

Overtime Holidays
Double time the regular rate for work on the following holiday(s).
New Year's Day
President's Day
Good Friday
Memorial Day
Independence Day
Labor Day
Columbus Day
Veteran's Day
Thanksgiving Day
Day after Thanksgiving
Christmas Day

Paid Holidays
None

(Local #7)

MASON TENDER
Building Laborer

Mason Tender

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: **$41.45**
Supplemental Benefit Rate per Hour: **$33.24**

Overtime
Time and one half the regular rate after an 8 hour day.
Time and one half the regular rate for Saturday.
Double time the regular rate for Sunday.
Saturday may be used as a make-up day at straight time when a day is lost during that week to inclement weather.

Overtime Holidays
Double time the regular rate for work on the following holiday(s).
New Year's Day
President's Day
Memorial Day
Independence Day
Labor Day
Thanksgiving Day
Christmas Day

Paid Holidays
None

Shift Rates
The employer may work two (2) shifts with the first shift at the straight time wage rate and the second shift receiving eight (8) hours paid for seven (7) hours work at the straight time wage rate. When it is not possible to conduct alteration work during regular working hours in a building occupied by tenants, the rule for the second shift will apply.

(Local #79)

MASON TENDER (INTERIOR DEMOLITION WORKER)

Mason Tender Tier A

Tier A Interior Demolition Worker performs all burning, chopping, and other technically skilled tasks related to interior demolition work.

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $38.00
Supplemental Benefit Rate per Hour: $26.54

Mason Tender Tier B

Tier B Interior Demolition Worker performs manual work and work incidental to demolition work, such as loading and carting of debris from the work site to an area where it can be loaded in to bins/trucks for removal. Also performs clean-up of the site when demolition is completed.

Effective Period: 7/1/2024 - 6/30/2025

Wage Rate per Hour: **$27.19**
Supplemental Benefit Rate per Hour: **$20.86**

Overtime
Time and one half the regular rate after an 8 hour day.
Time and one half the regular rate for Sunday.

Overtime Holidays
Double time the regular rate for work on the following holiday(s).
New Year's Day
President's Day
Memorial Day
Independence Day
Labor Day
Thanksgiving Day
Christmas Day

Paid Holidays
None

(Local #79)

METALLIC LATHER

Metallic Lather

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: **$46.45**
Supplemental Benefit Rate per Hour: **$54.80**
Supplemental Note: For time and one half overtime - $66.55 For double overtime - $86.60

Overtime
Time and one half the regular rate after an 8 hour day.
Time and one half the regular rate for Saturday.
Double time the regular rate for Sunday.

Overtime Holidays
Double time the regular rate for work on the following holiday(s).
New Year's Day
President's Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Thanksgiving Day
Christmas Day

Paid Holidays
1/2 day on Christmas Eve if work is performed in the A.M.
1/2 day on New Year's Eve if work is performed in the A.M.

Shift Rates
Off-shift work outside of normal working hours shall receive straight time rate plus $12 per hour for the first eight (8) hours.

(Local #46)

MILLWRIGHT

Millwright

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $59.35
Supplemental Benefit Rate per Hour: $58.67

Overtime
Time and one half the regular rate after an 8 hour day.
Time and one half the regular rate for Saturday.
Double time the regular rate for Sunday.
Saturday may be used as a make-up day at straight time when a day is lost during that week to inclement weather.

Overtime Holidays
Double time the regular rate for work on the following holiday(s).
New Year's Day
President's Day
Good Friday
Memorial Day
Independence Day
Labor Day
Columbus Day
Presidential Election Day
Veteran's Day
Thanksgiving Day
Christmas Day

Paid Holidays
1/2 day on Christmas Eve if work is performed in the A.M.
1/2 day on New Year's Eve if work is performed in the A.M.

Shift Rates

Second and third shifts receives the straight time rate of pay plus fifteen (15%) percent allowing for one half hour for a meal. There must be a first shift to work a second and third shift. All additional hours worked shall be paid at the time and one-half rate of pay plus fifteen (15%) percent for weekday hours.

(Local #740)

MOSAIC MECHANIC

Mosaic Mechanic - Mosaic & Terrazzo Mechanic

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $53.98
Supplemental Benefit Rate per Hour: $47.12

Mosaic Mechanic - Mosaic & Terrazzo Finisher

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $52.37
Supplemental Benefit Rate per Hour: $47.12

Mosaic Mechanic - Machine Operator Grinder

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $52.37
Supplemental Benefit Rate per Hour: $47.12

Overtime
Time and one half the regular rate after an 8 hour day.
Time and one half the regular rate for Saturday.
Double time the regular rate for Sunday.

Overtime Holidays
Double time the regular rate for work on the following holiday(s).
New Year's Day
Washington's Birthday
Good Friday
Independence Day
Labor Day
Columbus Day
Veteran's Day
Thanksgiving Day
Day after Thanksgiving
Christmas Day

Paid Holidays

None

(Local #7)

PAINTER

Painter - Brush & Roller

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $44.00
Supplemental Benefit Rate per Hour: $42.46
Supplemental Note: $50.56 on overtime

Spray & Scaffold / Decorative / Sandblast

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $47.00
Supplemental Benefit Rate per Hour: $42.46
Supplemental Note: $50.56 on overtime

Overtime
Time and one half the regular rate after a 7 hour day.
Time and one half the regular rate for Saturday.
Time and one half the regular rate for Sunday.

Overtime Holidays
Double time the regular rate for work on the following holiday(s).
New Year's Day
President's Day
Memorial Day
Independence Day
Labor Day
Thanksgiving Day
Day after Thanksgiving
Christmas Day

Paid Holidays
None

(District Council of Painters #9)

PAINTER - BRIDGE & STRUCTURAL STEEL

Painters on Structural Steel

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $56.00
Supplemental Benefit Rate per Hour: $52.78

Painter - Power Tool

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $63.00
Supplemental Benefit Rate per Hour: $52.78
Overtime Wage Rate: $6.50 above the "Painters on Structural Steel" overtime rate.

Overtime Description
Supplemental Benefits shall be paid for each hour worked, up to forty (40) hours per week for the period of May 1st to November 15th or up to fifty (50) hours per week for the period of November 16th to April 30th.

Overtime
Time and one half the regular rate after an 8 hour day.
Time and one half the regular rate for Saturday.
Time and one half the regular rate for Sunday.

Overtime Holidays
Double time the regular rate for work on the following holiday(s).
New Year's Day
Memorial Day
Independence Day
Labor Day
Thanksgiving Day
Christmas Day

Paid Holidays
None

Shift Rates
Second shift is paid at regular hourly wage rates plus a ten percent (10%) differential. There must be a first shift to work a second shift.

(Local #806)

PAINTER - METAL POLISHER

METAL POLISHER

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $34.00
Supplemental Benefit Rate per Hour: $12.36

METAL POLISHER - NEW CONSTRUCTION

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $34.95
Supplemental Benefit Rate per Hour: $12.36

METAL POLISHER - SCAFFOLD OVER 34 FEET

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $37.50
Supplemental Benefit Rate per Hour: $12.36

ASSISTANT METAL POLISHER

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $26.50
Supplemental Benefit Rate per Hour: $11.92

ASSISTANT METAL POLISHER - NEW CONSTRUCTION

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $27.25
Supplemental Benefit Rate per Hour: $11.92

ASSISTANT METAL POLISHER - SCAFFOLD OVER 34 FEET

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $29.00
Supplemental Benefit Rate per Hour: $11.92

Overtime Description

All work performed on Saturdays shall be paid at time-in-a half. The exception being; for suspended scaffold work and work deemed as a construction project; an eight (8) hour shift lost during the week due to circumstances beyond the control of the employer, up to a maximum of eight (8) hours per week, may be worked on Saturday at the straight time rate.

Holiday Pay
Double time the regular rate for work on the following Holiday plus the day's pay. Only employees who have completed one year of service, including any trial period shall be eligible for holiday pay.

Overtime
Time and one half the regular rate after an 8 hour day.
Time and one half the regular rate for Saturday.
Double time the regular rate for Sunday.
Saturday may be used as a make-up day at straight time when a day is lost during that week to inclement weather.

Paid Holidays
New Year's Day
Martin Luther King Jr. Day
President's Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Veteran's Day
Thanksgiving Day
Day after Thanksgiving
Christmas Day

Shift Rates
Four Days a week at Ten (10) hours straight a day.

Local 8A-28A

PAINTER - SIGN

Sign Painter

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $48.07
Supplemental Benefit Rate per Hour: $27.25

Assistant Sign Painter

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $40.85
Supplemental Benefit Rate per Hour: $25.90

Overtime Description
If any employee is required to work on any of the paid holidays then the employee shall receive double time rate of wages as well as the holiday pay for that day.

Overtime
Time and one half the regular rate after an 8 hour day.
Time and one half the regular rate for Saturday.

Time and one half the regular rate for Sunday.

Paid Holidays
New Year's Day
President's Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Election Day
Thanksgiving Day
Day after Thanksgiving
Christmas Day

Vacation
At least 1 year of employment.....1 week
2 years or more of employment.....2 weeks
8 years or more of employment.....3 weeks

(Local #8A-28A)

PAPERHANGER

Paperhanger

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $48.02
Supplemental Benefit Rate per Hour: $43.14
Supplemental Note: Supplemental benefits are to be paid at the appropriate straight time and overtime rate.

Overtime
Time and one half the regular rate after a 7 hour day.
Time and one half the regular rate for Saturday.
Double time the regular rate for Sunday.

Overtime Holidays
Double Time the regular rate for work on the following holiday(s).
New Year's Day
President's Day
Memorial Day
Independence Day
Labor Day
Thanksgiving Day
Day after Thanksgiving
Christmas Day

Paid Holidays
None

Shift Rates
Evening shift - 4:30 P.M. to 12:00 Midnight (regular rate of pay); any work performed before 7:00 A.M. shall be at time and one half the regular base rate of pay.

(District Council of Painters #9)

PAVER AND ROADBUILDER
SEE LABORER - PAVER AND ROADBUILDER

PAVER AND ROADBUILDER - LINE STRIPING (ROADWAY)
SEE LABORER - PAVER AND ROADBUILDER - LINE STRIPING (ROADWAY)

PLASTERER

Plasterer

Effective Period: 7/1/2024 - 7/31/2024
Wage Rate per Hour: $52.10
Supplemental Benefit Rate per Hour: $25.35

Effective Period: 8/1/2024 - 6/30/2025
Wage Rate per Hour: $52.99
Supplemental Benefit Rate per Hour: $26.10

Overtime
Time and one half the regular rate after an 8 hour day.
Time and one half the regular rate for Saturday.
Double time the regular rate for Sunday.
Saturday may be used as a make-up day at straight time when a day is lost during that week to inclement weather.

Overtime Holidays
Double time the regular rate for work on the following holiday(s).
New Year's Day
President's Day
Memorial Day
Independence Day
Labor Day
Thanksgiving Day
Christmas Day

Paid Holidays
None

Shift Rates
When it is not possible to conduct work during regular working hours (between 6:30am and 4:30pm), a shift differential shall be paid at the regular hourly rate plus a twelve percent (12%) per hour differential. Workers on shift work shall be allowed a paid one-half hour meal break.

(Local #262)

PLASTERER - TENDER

Plasterer - Tender

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $41.45
Supplemental Benefit Rate per Hour: $33.24

Overtime
Time and one half the regular rate after an 8 hour day.
Time and one half the regular rate for Saturday.
Double time the regular rate for Sunday.
Saturday may be used as a make-up day at straight time when a day is lost during that week to inclement weather.

Overtime Holidays
Double time the regular rate for work on the following holiday(s).
New Year's Day
Washington's Birthday
Memorial Day
Independence Day
Labor Day
Presidential Election Day
Thanksgiving Day
Christmas Day

Paid Holidays
None

Shift Rates
When work commences outside regular work hours, workers receive an hour additional (differential) wage and supplement payment. Eight hours pay for seven hours work or nine hours pay for eight hours work.

(Mason Tenders District Council)

PLUMBER

Plumber

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $74.95
Supplemental Benefit Rate per Hour: $43.00
Supplemental Note: Supplemental benefit contributions are to be made at the applicable overtime rates.

Plumber - Temporary Services

Temporary Services - When there are no Plumbers on the job site, there may be three shifts designed to cover the entire twenty-four hour period, including weekends if necessary, at the following rate straight time.

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $60.04
Supplemental Benefit Rate per Hour: $34.32

Overtime Description
Where the plumbing contract price is one and one half million dollars ($1,500,000.00) or less, double time the regular rate after an 8 hour day.

Overtime
Double time the regular rate after a 7 hour day.
Double time the regular time rate for Saturday.
Double time the regular rate for Sunday.

Overtime Holidays
Double time the regular rate for work on the following holiday(s).
New Year's Day
President's Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Veteran's Day

Thanksgiving Day
Day after Thanksgiving
Christmas Day

Shift Rates

30% shift premium shall be paid for wages and fringe benefits for 4:00 pm and midnight shifts Monday to Friday. 50% shift premium shall be paid for wages and fringe benefits for 4:00 pm and midnight shift work performed on weekends. For shift work on holidays, double time wages and fringe benefits shall be paid.

(Plumbers Local #1)

PLUMBER (MECHNICAL EQUIPMENT AND SERVICE)

(Mechanical Equipment and Service work shall include any repair and/or replacement of the present plumbing system.)

Plumber

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $48.20
Supplemental Benefit Rate per Hour: $21.36

Overtime

Time and one half the regular rate after an 8 hour day.
Time and one half the regular rate for Saturday.
Time and one half the regular rate for Sunday.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).
New Year's Day
President's Day
Memorial Day
Independence Day
Thanksgiving Day
Day after Thanksgiving
Christmas Day

Paid Holidays

None

(Plumbers Local # 1)

PLUMBER (RESIDENTIAL RATES FOR 1, 2 AND 3 FAMILY HOME CONSTRUCTION)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $52.07
Supplemental Benefit Rate per Hour: $30.82

Overtime
Double time the regular rate after an 8 hour day.
Double time the regular time rate for Saturday.
Double time the regular rate for Sunday.

Overtime Holidays
Double time the regular rate for work on the following holiday(s).
New Year's Day
President's Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Veteran's Day
Thanksgiving Day
Day after Thanksgiving
Christmas Day

Paid Holidays
None

Shift Rates
30% shift premium shall be paid for wages and fringe benefits for 4:00 pm and midnight shifts Monday to Friday. 50% shift premium shall be paid for wages and fringe benefits for 4:00 pm and midnight shift work performed on weekends. For shift work on holidays, double time wages and fringe benefits shall be paid.

(Plumbers Local #1)

PLUMBER: PUMP & TANK
Oil Trades (Installation and Maintenance)

Plumber - Pump & Tank

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $73.00

Supplemental Benefit Rate per Hour: $32.81

Overtime
Time and one half the regular rate after an 8 hour day.
Time and one half the regular rate for Saturday.
Time and one half the regular rate for Sunday.

Overtime Holidays
Time and one half the regular rate for work on the following holiday(s).
New Year's Day
President's Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Veteran's Day
Thanksgiving Day
Day after Thanksgiving
Christmas Day

Paid Holidays
None

Shift Rates
All work outside the regular workday (8:00 A.M. to 3:30 P.M.) is to be paid at time and one half the regular hourly rate

(Plumbers Local #1)

POINTER, WATERPROOFER, CAULKER, SANDBLASTER, STEAMBLASTER
(Exterior Building Renovation)

Journeyperson

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $63.43
Supplemental Benefit Rate per Hour: $31.50

Overtime
Time and one half the regular rate after an 8 hour day.
Time and one half the regular rate for Saturday.
Time and one half the regular rate for Sunday.

Saturday may be used as a make-up day at straight time when a day is lost during that week to inclement weather.

Overtime Holidays
Time and one half the regular rate for work on the following holiday(s).
New Year's Day
Martin Luther King Jr. Day
President's Day
Memorial Day
Independence Day
Labor Day
Thanksgiving Day
Christmas Day

Paid Holidays
None

Shift Rates
All work outside the regular work day (an eight hour workday between the hours of 6:00 A.M. and 4:00 P.M.) is to be paid at time and one half the regular rate. However, the employer may establish one (1) or two (2) shifts starting at or after 4:00 P.M. to be paid at the regular hourly rate plus a 10% differential. For projects bid and performed after July 1, 2023, the first shift shall be paid at the regular hourly rate plus a 5% differential.

(Bricklayer District Council)

ROOFER

Roofer

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $48.50
Supplemental Benefit Rate per Hour: $38.81

Overtime
Time and one half the regular rate after an 8 hour day.
Time and one half the regular rate for Saturday.
Time and one half the regular rate for Sunday.

Overtime Holidays
Time and one half the regular rate for work on the following holiday(s).
New Year's Day
Memorial Day
Independence Day
Labor Day
Thanksgiving Day
Christmas Day

Paid Holidays
None

Shift Rates
Second shift - Regular hourly rate plus a 10% differential. Third shift - Regular hourly rate plus a 15% differential. There must be a first shift to work the second shift, and a second shift to work the third shift. All other work outside the regular work day (an eight hour workday between the hours of 5:00 A.M. and 4:00 P.M.) is to be paid at time and one half the regular rate.

(Local #8)

SHEET METAL WORKER

Sheet Metal Worker

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $53.60
Supplemental Benefit Rate per Hour: $58.43
Supplemental Note: Supplemental benefit contributions are to be made at the applicable overtime rates.

Sheet Metal Worker - Fan Maintenance

(The temporary operation of fans or blowers in new or existing buildings for heating and/or ventilation, and/or air conditioning prior to the completion of the project.)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $42.88
Supplemental Benefit Rate per Hour: $58.43

Sheet Metal Worker - Duct Cleaner

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $19.57
Supplemental Benefit Rate per Hour: $12.72

Overtime
Time and one half the regular rate after an 8 hour day.
Time and one half the regular rate for Saturday.
Double time the regular rate for Sunday.

Overtime Holidays
Double time the regular rate for work on the following holiday(s).
New Year's Day
Martin Luther King Jr. Day

President's Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Veteran's Day
Thanksgiving Day
Day after Thanksgiving
Christmas Day

Paid Holidays
None

Shift Rates
Work that can only be performed outside regular working hours (eight hours of work between 7:30 A.M. and 3:30 P.M.) - First shift (work between 3:30 P.M. and 11:30 P.M.) - 10% differential above the established hourly rate. Second shift (work between 11:30 P.M. and 7:30 A.M.) - 15% differential above the established hourly rate.

For Fan Maintenance: On all full shifts of fan maintenance work the straight time hourly rate of pay will be paid for each shift, including nights, Saturdays, Sundays, and holidays.

(Local #28)

SHEET METAL WORKER - SPECIALTY
(Decking & Siding)

Sheet Metal Specialty Worker

The first worker to perform this work must be paid at the rate of the Sheet Metal Worker. The second and third workers shall be paid the Specialty Worker Rate. The ratio of One Sheet Metal Worker, then Two Specialty Workers shall be utilized thereafter.

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $50.10
Supplemental Benefit Rate per Hour: $30.04
Supplemental Note: Supplemental benefit contributions are to be made at the applicable overtime rates.

Overtime
Time and one half the regular rate after an 8 hour day.
Time and one half the regular rate for Saturday.
Double time the regular rate for Sunday.

Overtime Holidays
Double time the regular rate for work on the following holiday(s).
New Year's Day

Martin Luther King Jr. Day
President's Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Veteran's Day
Thanksgiving Day
Christmas Day

Paid Holidays
None

(Local #28)

SHIPYARD WORKER

Shipyard Mechanic - First Class

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $31.50
Supplemental Benefit Rate per Hour: $3.98

Shipyard Mechanic - Second Class

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $23.86
Supplemental Benefit Rate per Hour: $3.77

Shipyard Laborer - First Class

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $25.85
Supplemental Benefit Rate per Hour: $3.78

Shipyard Laborer - Second Class

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $18.87
Supplemental Benefit Rate per Hour: $3.72

Shipyard Dockhand - First Class

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $24.20

Supplemental Benefit Rate per Hour: **$3.77**

Shipyard Dockhand - Second Class

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: **$19.37**
Supplemental Benefit Rate per Hour: **$3.63**

Overtime Description
Work performed on holiday is paid double time the regular hourly wage rate plus holiday pay.

Overtime
Time and one half the regular rate after an 8 hour day.
Time and one half the regular rate for Saturday.
Double time the regular rate for Sunday.
Time and one half the regular hourly rate after 40 straight time hours in any work week.

Paid Holidays
New Year's Day
Martin Luther King Jr. Day
President's Day
Good Friday
Memorial Day
Independence Day
Labor Day
Thanksgiving Day
Day after Thanksgiving
Christmas Day

Based on Survey Data

SIGN ERECTOR
(Sheet Metal, Plastic, Electric, and Neon)

Sign Erector

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: **$58.00**
Supplemental Benefit Rate per Hour: **$63.44**

Overtime
Time and one half the regular rate after an 8 hour day.
Time and one half the regular rate for Saturday.
Time and one half the regular rate for Sunday.

Time and one half the regular rate for work on the following holiday(s).

Paid Holidays
New Year's Day
President's Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Election Day
Thanksgiving Day
Day after Thanksgiving
Christmas Day

Shift Rates
Time and one half the regular hourly rate is to be paid for all hours worked outside the regular workday either (7:00 A.M. through 2:30 P.M.) or (8:00 A.M. through 3:30 P.M.)

(Local #137)

STEAMFITTER

Steamfitter

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $61.80
Supplemental Benefit Rate per Hour: $61.14
Supplemental Note: Overtime supplemental benefit rate: $121.54

Steamfitter -Temporary Services

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $46.97
Supplemental Benefit Rate per Hour: $49.65

Overtime Description
Double time after a 7 hour day except for Temporary Services.

Overtime
Double time the regular time rate for Saturday.
Double time the regular rate for Sunday.

Overtime Holidays
Double time the regular rate for work on the following holiday(s).
New Year's Day

President's Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Veteran's Day
Thanksgiving Day
Day after Thanksgiving
Christmas Day

Paid Holidays
None

Shift Rates
May be performed outside of the regular workday except Saturday, Sunday and Holidays. When shift work is performed the wage rate for regular time worked is a 15% percent premium on wage and 15% percent premium on supplemental benefits.

Local 638

STEAMFITTER - REFRIGERATION AND AIR CONDITIONER
(Maintenance and Installation Service Person)

Refrigeration and Air Conditioner Mechanic

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $46.10
Supplemental Benefit Rate per Hour: $21.96

Overtime
Time and one half the regular rate after an 8 hour day.
Time and one half the regular rate for Saturday.
Double time the regular rate for Sunday.

Overtime Holidays
Double time the regular rate for work on the following holiday(s).
New Year's Day
Independence Day
Labor Day
Veteran's Day
Thanksgiving Day
Christmas Day

Double time and one half the regular rate for work on the following holiday(s).
Martin Luther King Jr. Day
President's Day
Memorial Day
Columbus Day

Paid Holidays

New Year's Day
Martin Luther King Jr. Day
President's Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Veteran's Day
Thanksgiving Day
Christmas Day

(Local #638-B)

STONE MASON - SETTER

Stone Mason - Setter

(Assisted by Derrickperson and Rigger)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $57.35
Supplemental Benefit Rate per Hour: $55.47

Overtime

Time and one half the regular rate after a 7 hour day.
Time and one half the regular rate for Saturday.
Double time the regular rate for Sunday.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).
New Year's Day
Washington's Birthday
Good Friday
Memorial Day
Independence Day
Labor Day
Thanksgiving Day
Christmas Day

Paid Holidays

1/2 day on Christmas Eve if work is performed in the A.M.

Shift Rates
For all work outside the regular workday (8:00 A.M. to 3:30 P.M. Monday through Friday), the pay shall be straight time plus a ten percent (10%) differential.

(Bricklayers District Council)

TAPER

Drywall Taper

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $48.47
Supplemental Benefit Rate per Hour: $33.51

Overtime
Time and one half the regular rate after a 7 hour day.
Time and one half the regular rate for Saturday.
Double time the regular rate for Sunday.

Overtime Holidays
Double time the regular rate for work on the following holiday(s).
New Year's Day
Martin Luther King Jr. Day
President's Day
Good Friday
Memorial Day
Independence Day
Columbus Day
Thanksgiving Day
Day before Christmas
Christmas Day
Day before New Year's Day

Paid Holidays
Labor Day

(Local #1974)

TELECOMMUNICATION WORKER

(Install/maintain/repair telecommunications cables carrying data, video, and/or voice except for installation on building construction/alteration/renovation projects.)

Telecommunication Worker

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $47.03
Supplemental Benefit Rate per Hour: $23.15
Supplemental Note: The above rate applies for Manhattan, Bronx, Brooklyn, Queens. $22.84 for Staten Island only.

Overtime

Time and one half the regular rate after an 8 hour day.
Time and one half the regular rate for Saturday.
Time and one half the regular rate for Sunday.

Overtime Holidays

Time and one half the regular rate for work on the following holiday(s).
New Year's Day
Lincoln's Birthday
Washington's Birthday
Memorial Day
Independence Day
Labor Day
Columbus Day
Election Day
Veteran's Day
Thanksgiving Day
Christmas Day

Paid Holidays

New Year's Day
Lincoln's Birthday
Washington's Birthday
Memorial Day
Independence Day
Labor Day
Columbus Day
Election Day
Veteran's Day
Thanksgiving Day
Christmas Day
Employees have the option of observing either Martin Luther King's Birthday or the day after Thanksgiving instead of Lincoln's Birthday

Shift Rates

For any workday that starts before 8A.M. or ends after 6P.M. there is a 10% differential for the applicable worker's hourly rate.

Vacation

After 6 months.....one week.
After 12 months but less than 7 years.....two weeks.
After 7 or more but less than 15 years.....three weeks.
After 15 years or more but less than 25 years.....four weeks.

(C.W.A.)

TILE FINISHER

Tile Finisher

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $49.46
Supplemental Benefit Rate per Hour: $32.86

Overtime

Time and one half the regular rate after an 8 hour day.
Time and one half the regular rate for Saturday.
Double time the regular rate for Sunday.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).
New Year's Day
President's Day
Good Friday
Memorial Day
Independence Day
Labor Day
Columbus Day
Veteran's Day
Thanksgiving Day
Day after Thanksgiving
Christmas Day

Paid Holidays

None

Shift Rates

Off shift work day (work performed outside the regular 8:00 A.M. to 3:30 P.M. workday): shift differential of one and one quarter (1¼) times the regular straight time rate of pay for the seven hours of actual off-shift work.

(Local #7)

TILE LAYER - SETTER

Tile Layer - Setter

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $64.40
Supplemental Benefit Rate per Hour: $36.01

Overtime
Time and one half the regular rate after an 8 hour day.
Time and one half the regular rate for Saturday.
Double time the regular rate for Sunday.

Overtime Holidays
Double time the regular rate for work on the following holiday(s).
New Year's Day
President's Day
Good Friday
Memorial Day
Independence Day
Labor Day
Columbus Day
Veteran's Day
Thanksgiving Day
Day after Thanksgiving
Christmas Day

Shift Rates
Off shift work day (work performed outside the regular 8:00 A.M. to 3:30 P.M. workday): shift differential of one and one quarter (1¼) times the regular straight time rate of pay for the seven hours of actual off-shift work.

(Local #7)

TIMBERPERSON

Timberperson

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $55.59
Supplemental Benefit Rate per Hour: $55.41

Overtime
Time and one half the regular rate after an 8 hour day.

Time and one half the regular rate for Saturday.
Double time the regular rate for Sunday.
Saturday may be used as a make-up day at straight time when a day is lost during that week to inclement weather.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).
New Year's Day
President's Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Presidential Election Day
Thanksgiving Day
Christmas Day

Paid Holidays

None

Shift Rates

Off shift work commencing between 5:00 P.M. and 11:00 P.M. shall work eight and one half hours allowing for one half hour for lunch. The wage rate shall be 113% of the straight time hourly wage rate. Benefits for off-shift work shall be paid at the straight time rate.

(Local #1556)

TUNNEL WORKER

Blasters, Mucking Machine Operators (Compressed Air Rates)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $73.50
Supplemental Benefit Rate per Hour: $64.93

Tunnel Workers (Compressed Air Rates)

Includes shield driven liner plate portions or solidification portions work (8 hour shift) during excavation phase.

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $70.88
Supplemental Benefit Rate per Hour: $62.88

Top Nipper (Compressed Air Rates)

Effective Period: 7/1/2024 - 6/30/2025

Wage Rate per Hour: $69.69
Supplemental Benefit Rate per Hour: $61.64

Outside Lock Tender, Outside Gauge Tender,Muck Lock Tender (Compressed Air Rates)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $68.30
Supplemental Benefit Rate per Hour: $60.64

Bottom Bell & Top Bell Signal Person: Shaft Person (Compressed Air Rates)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $68.30
Supplemental Benefit Rate per Hour: $60.64

Changehouse Attendant: Powder Watchperson (Compressed Air Rates)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $60.18
Supplemental Benefit Rate per Hour: $56.85

Blasters (Free Air Rates)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $70.12
Supplemental Benefit Rate per Hour: $62.33

Tunnel Workers (Free Air Rates)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $67.08
Supplemental Benefit Rate per Hour: $59.73

All Others (Free Air Rates)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $62.01
Supplemental Benefit Rate per Hour: $55.28

Microtunneling (Free Air Rates)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $53.66
Supplemental Benefit Rate per Hour: $47.78

Overtime Description

For work performed during excavation and primary concrete tunnel lining phases - Double time the regular rate after an 8 hour day and Saturday, Sunday and on the following holiday(s) listed below.
For Repair-Maintenance Work on Existing Equipment and Facilities - Time and one half the regular rate after a 8 hour day, Saturday, Sunday and double time the regular rate for work on the following holiday(s) listed below.
For Small-Bore Micro Tunneling Machines - Time and one-half the regular rate shall be paid for all overtime.
For work not listed above - Time and one half the regular rate after an 8 hour day and Saturday and double time the regular rate on Sunday and on the following holiday(s) listed below.

Paid Holidays

New Year's Day
Martin Luther King Jr. Day
President's Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Veteran's Day
Thanksgiving Day
Day after Thanksgiving
Christmas Day

(Local #147)

UTILITY LOCATOR

(Locate & mark underground utilities including gas for street excavation and utility line repairs)

Utility Locator (Year 7 and above)

Effective Period: 7/1/2024 - 8/25/2024
Wage Rate per Hour: $31.56
Supplemental Benefit Rate per Hour: $1.43

Effective Period: 8/26/2024 – 6/30/2025
Wage Rate per Hour: $35.50
Supplemental Benefit Rate per Hour: $1.43

Utility Locator (Year 5 Second 6 months & Year 6)

Effective Period: 7/1/2024 - 8/25/2024
Wage Rate per Hour: $22.85
Supplemental Benefit Rate per Hour: $1.43

Effective Period: 8/26/2024 – 6/30/2025
Wage Rate per Hour: $35.50

Supplemental Benefit Rate per Hour: $1.43

Utility Locator (Year 5 fist 6 months)

Effective Period: 7/1/2024 - 8/25/2024
Wage Rate per Hour: $22.85
Supplemental Benefit Rate per Hour: $1.43

Effective Period: 8/26/2024 - 6/30/2025
Wage Rate per Hour: $34.80
Supplemental Benefit Rate per Hour: $1.43

Utility Locator (Year 4)

Effective Period: 7/1/2024 - 8/25/2024
Wage Rate per Hour: $21.54
Supplemental Benefit Rate per Hour: $1.43

Effective Period: 8/26/2024 - 6/30/2025
Wage Rate per Hour: $31.54
Supplemental Benefit Rate per Hour: $1.43

Utility Locator (Year 3)

Effective Period: 7/1/2024 - 8/25/2024
Wage Rate per Hour: $20.30
Supplemental Benefit Rate per Hour: $1.43

Effective Period: 8/26/2024 - 6/30/2025
Wage Rate per Hour: $28.28
Supplemental Benefit Rate per Hour: $1.43

Utility Locator (Year 2)

Effective Period: 7/1/2024 - 8/25/2024
Wage Rate per Hour: $19.13
Supplemental Benefit Rate per Hour: $1.43

Effective Period: 8/26/2024 - 6/30/2025
Wage Rate per Hour: $25.02
Supplemental Benefit Rate per Hour: $1.43

Utility Locator (Year 1)

Effective Period: 7/1/2024 - 8/25/2024
Wage Rate per Hour: $18.04
Supplemental Benefit Rate per Hour: $1.43

Effective Period: 8/26/2024 - 6/30/2025
Wage Rate per Hour: $21.76

Supplemental Benefit Rate per Hour: $1.43

Utility Locator (Up to 1 year)

Effective Period: 7/1/2024 - 8/25/2024
Wage Rate per Hour: $17.00
Supplemental Benefit Rate per Hour: $1.43
Supplemental Note: No benefits for the first 90 days of employment.

Effective Period: 8/26/2024 - 6/30/2025
Wage Rate per Hour: $18.50
Supplemental Benefit Rate per Hour: $1.43
Supplemental Note: No benefits for the first 90 days of employment.

Overtime
Time and one half the regular rate for work on the following holiday(s).
Time and one half the regular hourly rate after 40 straight time hours in any work week.

Paid Holidays
New Year's Day
Memorial Day
Independence Day
Thanksgiving Day
Christmas Day

Shift Rates
10% shift differential to employees working any shift starting between noon and 5 AM.

Vacation
For up to 1 year 0 hours
For year 1 - 2 48 hours per year
For year 3 - 9 96 hours per year
For year 10 or more 144 hours per year

Sick Days:
For up to 1 year employee receives 40 hours paid sick leave.
For year 1 employee earns 2 hours of paid sick leave for every 100 overtime hours worked.
For year 2 - 9 years employee earns 4 hours of paid sick leave for every 100 overtime hours worked.
For year 10 or more employee earns 6 hours of paid sick leave for every 100 overtime hours worked.

(C.W.A.)

WELDER

WELDER AND FIREWATCH TO BE PAID AT THE RATE OF THE JOURNEYPERSON OR REGISTERED APPRENTICE IN THE TRADE PERFORMING THE WORK.

OFFICE OF THE COMPTROLLER

CITY OF NEW YORK

CONSTRUCTION APPRENTICE PREVAILING WAGE SCHEDULE

Pursuant to Labor Law § 220 (3-e), only apprentices who are individually registered in a bona fide program to which the employer contractor is a participant and registered with the New York State Department of Labor, may be paid at the apprentice rates in this schedule. Apprentices who are not so registered must be paid as journey persons in accordance with the trade classification of the work they actually performed.

Apprentice ratios are established to ensure the proper safety, training and supervision of apprentices. A ratio establishes the number of journey workers required for each apprentice in a program and on a job site. Ratios are interpreted as follows: in the case of a 1:1, 1:4 ratio, there must be one journey worker for the first apprentice, and four additional journey workers for each subsequent apprentice.

TABLE OF CONTENTS

CLASSIFICATION	PAGE
BOILERMAKER	3
BRICKLAYER	4
CARPENTER	5
CARPENTER - HIGH RISE CONCRETE FORMS	5
CEMENT AND CONCRETE WORKER	6
CEMENT MASON	7
DERRICKPERSON & RIGGER (STONE)	7
DOCKBUILDER/PILE DRIVER	8
ELECTRICIAN	9
ELEVATOR CONSTRUCTOR	11
ELEVATOR REPAIR & MAINTENANCE	12
ENGINEER	13
ENGINEER - OPERATING	13
FLOOR COVERER	14
GLAZIER	15
HAZARDOUS MATERIAL HANDLER	15
HEAT & FROST INSULATOR	16
HOUSE WRECKER	17
IRON WORKER - ORNAMENTAL	17
IRON WORKER - STRUCTURAL	18
LABORER - HEAVY & HIGHWAY	19
LABORER - PAVER & ROADBUILDER	19
LABORER - PAVER AND ROADBUILDER - LINE STRIPING (ROADWAY)	20
MARBLE MECHANICS	20
MASON TENDER	22
MASON TENDER (INTERIOR DEMOLITION WORKER)	23
METALLIC LATHER	24
MILLWRIGHT	24
PAINTER	25
PAINTER - BRIDGE & STRUCTURAL STEEL	26
PAINTER - METAL POLISHER	26
PLASTERER	27
PLASTERER - TENDER	28
PLUMBER	28
POINTER, WATERPROOFER, CAULKER, SANDBLASTER, STEAMBLASTER	30
ROOFER	30
SHEET METAL WORKER	31
SIGN ERECTOR	32
STEAMFITTER	34
STEAMFITTER - REFRIGERATION & AIR CONDITIONER	34
STONE MASON - SETTER	35
TAPER	36
TILE LAYER - SETTER	37
TIMBERPERSON	38

BOILERMAKER

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 3)

Boilermaker (First Year)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate Per Hour: 65% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: $34.95

Boilermaker (Second Year: 1st Six Months)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate Per Hour: 70% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: $36.99

Boilermaker (Second Year: 2nd Six Months)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate Per Hour: 75% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: $39.06

Boilermaker (Third Year: 1st Six Months)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate Per Hour: 80% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: $41.09

Boilermaker (Third Year: 2nd Six Months)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate Per Hour: 85% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: $43.17

Boilermaker (Fourth Year: 1st Six Months)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate Per Hour: 90% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: $45.23

Boilermaker (Fourth Year: 2nd Six Months)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate Per Hour: 95% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: $47.28

(Local #5)

BRICKLAYER

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 4)

Bricklayer (First 750 Hours)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate Per Hour: 50% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: $27.60

Bricklayer (Second 750 Hours)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate Per Hour: 60% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: $27.60

Bricklayer (Third 750 Hours)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate Per Hour: 70% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: $27.60

Bricklayer (Fourth 750 Hours)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate Per Hour: 80% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: $27.60

Bricklayer (Fifth 750 Hours)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate Per Hour: 90% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: $27.60

Bricklayer (Sixth 750 Hours)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate Per Hour: 95% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: $27.60

(Bricklayer District Council)

CARPENTER

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 4)

Carpenter (First Year)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate Per Hour For Building Apprentice: $22.20
Supplemental Benefit Rate Per Hour For Building Apprentice: $17.70

Wage Rate Per Hour For Heavy Apprentice: $26.98
Supplemental Benefit Rate Per Hour For Heavy Apprentice: $37.89

Carpenter (Second Year)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate Per Hour For Building Apprentice: $25.20
Supplemental Benefit Rate Per Hour For Building Apprentice: $19.20

Wage Rate Per Hour For Heavy Apprentice: $32.58
Supplemental Benefit Rate Per Hour For Heavy Apprentice: $37.89

Carpenter (Third Year)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate Per Hour For Building Apprentice: $29.45
Supplemental Benefit Rate Per Hour For Building Apprentice: $22.80

Wage Rate Per Hour For Heavy Apprentice: $40.96
Supplemental Benefit Rate Per Hour For Heavy Apprentice: $37.89

Carpenter (Fourth Year)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate Per Hour For Building Apprentice: $37.33
Supplemental Benefit Rate Per Hour For Building Apprentice: $24.80

Wage Rate Per Hour For Heavy Apprentice: $49.35
Supplemental Benefit Rate Per Hour For Heavy Apprentice: $37.89

(Carpenters District Council)

CARPENTER - HIGH RISE CONCRETE FORMS

(Ratio of Apprentice to Journeyperson: 1 to 1, 2 to 5)

Carpenter - High Rise (First Year)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $18.27
Supplemental Benefit Rate per Hour: $17.55

Carpenter - High Rise (Second Year)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $24.70
Supplemental Benefit Rate per Hour: $17.68

Carpenter - High Rise (Third Year)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $31.28
Supplemental Benefit Rate per Hour: $17.81

Carpenter - High Rise (Fourth Year)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $38.90
Supplemental Benefit Rate per Hour: $17.96

(Carpenters District Council)

CEMENT AND CONCRETE WORKER

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 3)

Cement & Concrete Worker (First 1333 hours)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate Per Hour: 53% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: $16.44

Cement & Concrete Worker (Second 1333 hours)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate Per Hour: 69% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: $21.72

Cement & Concrete Worker (Last 1334 hours)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate Per Hour: 85% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: $23.00

(Cement Concrete Workers District Council)

CEMENT MASON

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 4)

Cement Mason (First Year)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $23.39
Supplemental Benefit Rate per Hour: $14.86

Cement Mason (Second Year)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $28.29
Supplemental Benefit Rate per Hour: $15.16

Cement Mason (Third Year)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $33.69
Supplemental Benefit Rate per Hour: $15.27

(Local #780)

DERRICKPERSON & RIGGER (STONE)

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 4)

Derrickperson & Rigger (stone) - First Year

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate Per Hour: 50% of Journeyperson's rate

Supplemental Benefit Rate Per Hour: 50% of Journeyperson's rate

Derrickperson & Rigger (stone) - Second Year: 1st Six Months

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate Per Hour: 70% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: 75% of Journeyperson's rate

Derrickperson & Rigger (stone) - Second Year: 2nd Six Months

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate Per Hour: 80% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: 75% of Journeyperson's rate

Derrickperson & Rigger (stone) - Third Year

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate Per Hour: 90% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: 75% of Journeyperson's rate

(Local #197)

DOCKBUILDER/PILE DRIVER

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 6)

Dockbuilder/Pile Driver (First Year)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate Per Hour: $26.98
Supplemental Benefit Rate Per Hour: $37.89

Dockbuilder/Pile Driver (Second Year)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate Per Hour: $32.58
Supplemental Benefit Rate Per Hour: $37.89

Dockbuilder/Pile Driver (Third Year)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate Per Hour: $40.96
Supplemental Benefit Rate Per Hour: $37.89

Dockbuilder/Pile Driver (Fourth Year)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate Per Hour: $49.35
Supplemental Benefit Rate Per Hour: $37.89

(Carpenters District Council)

ELECTRICIAN

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 3)

Electrician (First Term: 0-6 Months)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $18.00
Supplemental Benefit Rate per Hour: $17.18
Overtime Supplemental Rate Per Hour: $18.38

Electrician (First Term: 7-12 Months)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $18.50
Supplemental Benefit Rate per Hour: $17.44
Overtime Supplemental Rate Per Hour: $18.67

Electrician (Second Term: 0-6 Months)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $19.50
Supplemental Benefit Rate per Hour: $17.97
Overtime Supplemental Rate Per Hour: $19.26

Electrician (Second Term: 7-12 Months)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $20.50
Supplemental Benefit Rate per Hour: $18.49
Overtime Supplemental Rate Per Hour: $19.85

Electrician (Third Term: 0-6 Months)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $21.50

Supplemental Benefit Rate per Hour: $19.02
Overtime Supplemental Rate Per Hour: $20.44

Electrician (Third Term: 7-12 Months)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $22.50
Supplemental Benefit Rate per Hour: $19.54
Overtime Supplemental Rate Per Hour: $21.03

Electrician (Fourth Term: 0-6 Months)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $23.50
Supplemental Benefit Rate per Hour: $20.06
Overtime Supplemental Rate Per Hour: $21.62

Electrician (Fourth Term: 7-12 Months)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $25.50
Supplemental Benefit Rate per Hour: $21.11
Overtime Supplemental Rate Per Hour: $22.80

Electrician (Fifth Term: 0-12 Months)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $27.50
Supplemental Benefit Rate per Hour: $24.79
Overtime Supplemental Rate Per Hour: $26.52

Electrician (Fifth Term: 13-18 Months)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $32.00
Supplemental Benefit Rate per Hour: $27.20
Overtime Supplemental Rate Per Hour: $29.23

Overtime Description

Overtime Wage paid at time and one half the regular rate

(Local #3)

ELEVATOR CONSTRUCTOR

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 2)

Elevator (Constructor) - First Year

Effective Period: 7/1/2024 - 3/16/2025
Wage Rate Per Hour: 50% of Journeyperson's rate
Supplemental Rate Per Hour: $34.78

Effective Period: 3/17/2025 - 6/30/2025
Wage Rate Per Hour: 50% of Journeyperson's rate
Supplemental Rate Per Hour: $35.48

Elevator (Constructor) - Second Year

Effective Period: 7/1/2024 - 3/16/2025
Wage Rate Per Hour: 55% of Journeyperson's rate
Supplemental Rate Per Hour: $35.42

Effective Period: 3/17/2025 - 6/30/2025
Wage Rate Per Hour: 55% of Journeyperson's rate
Supplemental Rate Per Hour: $36.16

Elevator (Constructor) - Third Year

Effective Period: 7/1/2024 - 3/16/2025
Wage Rate Per Hour: 65% of Journeyperson's rate
Supplemental Rate Per Hour: $36.71

Effective Period: 3/17/2025 - 6/30/2025
Wage Rate Per Hour: 65% of Journeyperson's rate
Supplemental Rate Per Hour: $37.53

Elevator (Constructor) - Fourth Year

Effective Period: 7/1/2024 - 3/16/2025
Wage Rate Per Hour: 75% of Journeyperson's rate
Supplemental Rate Per Hour: $38.00

Effective Period: 3/17/2025 - 6/30/2025
Wage Rate Per Hour: 75% of Journeyperson's rate
Supplemental Rate Per Hour: $38.90

(Local #1)

ELEVATOR REPAIR & MAINTENANCE

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 2)

Elevator Service/Modernization Mechanic (First Year)

Effective Period: 7/1/2024 - 3/16/2025
Wage Rate Per Hour: 50% of Journeyperson's rate
Supplemental Benefit Per Hour: $34.75

Effective Period: 3/17/2025 - 6/30/2025
Wage Rate Per Hour: 50% of Journeyperson's rate
Supplemental Benefit Per Hour: $35.45

Elevator Service/Modernization Mechanic (Second Year)

Effective Period: 7/1/2024 - 3/16/2025
Wage Rate Per Hour: 55% of Journeyperson's rate
Supplemental Benefit Per Hour: $35.39

Effective Period: 3/17/2025 - 6/30/2025
Wage Rate Per Hour: 55% of Journeyperson's rate
Supplemental Benefit Per Hour: $36.13

Elevator Service/Modernization Mechanic (Third Year)

Effective Period: 7/1/2024 - 3/16/2025
Wage Rate Per Hour: 65% of Journeyperson's rate
Supplemental Benefit Per Hour: $36.68

Effective Period: 3/17/2025 - 6/30/2025
Wage Rate Per Hour: 65% of Journeyperson's rate
Supplemental Benefit Per Hour: $37.50

Elevator Service/Modernization Mechanic (Fourth Year)

Effective Period: 7/1/2024 - 3/16/2025
Wage Rate Per Hour: 75% of Journeyperson's rate
Supplemental Benefit Per Hour: $37.96

Effective Period: 3/17/2025 - 6/30/2025
Wage Rate Per Hour: 75% of Journeyperson's rate
Supplemental Benefit Per Hour: $38.86

(Local #1)

ENGINEER

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 5)

Engineer - First Year

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $27.47
Supplemental Benefit Rate per Hour: $34.30

Engineer - Second Year

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $34.34
Supplemental Benefit Rate per Hour: $34.30

Engineer - Third Year

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $37.77
Supplemental Benefit Rate per Hour: $34.30

Engineer - Fourth Year

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $41.21
Supplemental Benefit Rate per Hour: $34.30

(Local #15)

ENGINEER - OPERATING

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 5)

Operating Engineer - First Year

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate Per Hour: 40% of Operating Engineer - Road & Heavy Construction V's Rate
Supplemental Benefit Per Hour: $26.40

Operating Engineer - Second Year

Effective Period: 7/1/2024 - 6/30/2025

Wage Rate Per Hour: 50% of Operating Engineer - Road & Heavy Construction V's Rate
Supplemental Benefit Per Hour: $26.40

Operating Engineer - Third Year

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate Per Hour: 60% of Operating Engineer - Road & Heavy Construction V's Rate
Supplemental Benefit Per Hour: $26.40

(Local #14)

FLOOR COVERER

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 4)

Floor Coverer (First Year)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $25.20
Supplemental Benefit Rate per Hour: $17.25

Floor Coverer (Second Year)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $28.20
Supplemental Benefit Rate per Hour: $18.75

Floor Coverer (Third Year)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $32.45
Supplemental Benefit Rate per Hour: $22.35

Floor Coverer (Fourth Year)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $40.33
Supplemental Benefit Rate per Hour: $24.35

(Carpenters District Council)

GLAZIER

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 3)

Glazier (First Year)

Effective Period: 7/1/2024 - 6/30/2025
Wage and Supplemental Rate Per Hour: 40% of Journeyperson's rate

Glazier (Second Year)

Effective Period: 7/1/2024 - 6/30/2025
Wage and Supplemental Rate Per Hour: 50% of Journeyperson's rate

Glazier (Third Year)

Effective Period: 7/1/2024 - 6/30/2025
Wage and Supplemental Rate Per Hour: 60% of Journeyperson's rate

Glazier (Fourth Year)

Effective Period: 7/1/2024 - 6/30/2025
Wage and Supplemental Rate Per Hour: 80% of Journeyperson's rate

(Local #1281)

HAZARDOUS MATERIAL HANDLER

(Ratio of Apprentice Journeyperson: 1 to 1, 1 to 3)

Handler (First 1000 Hours)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $20.00
Supplemental Benefit Rate per Hour: $15.10

Handler (Second 1000 Hours)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $21.00
Supplemental Benefit Rate per Hour: $15.10

Handler (Third 1000 Hours)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $24.00
Supplemental Benefit Rate per Hour: $15.10

Handler (Fourth 1000 Hours)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $26.00
Supplemental Benefit Rate per Hour: $15.10

(Local #78)

HEAT & FROST INSULATOR

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 3)

Heat & Frost Insulator (First Year)

Effective Period: 7/1/2024 - 6/30/2025
Wage and Supplemental Rate Per Hour: 40% of Journeyperson's rate

Heat & Frost Insulator (Second Year)

Effective Period: 7/1/2024 - 6/30/2025
Wage and Supplemental Rate Per Hour: 50% of Journeyperson's rate

Heat & Frost Insulator (Third Year)

Effective Period: 7/1/2024 - 6/30/2025
Wage and Supplemental Rate Per Hour: 60% of Journeyperson's rate

Heat & Frost Insulator (Fourth Year)

Effective Period: 7/1/2024 - 6/30/2025
Wage and Supplemental Rate Per Hour: 70% of Journeyperson's rate

(Local #12)

HOUSE WRECKER

(TOTAL DEMOLITION)

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 3)

House Wrecker - First Year

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $21.55
Supplemental Benefit Rate per Hour: $11.27

House Wrecker - Second Year

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $23.30
Supplemental Benefit Rate per Hour: $11.27

House Wrecker - Third Year

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $24.80
Supplemental Benefit Rate per Hour: $11.27

House Wrecker - Fourth Year

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $27.30
Supplemental Benefit Rate per Hour: $11.27

(Mason Tenders District Council)

IRON WORKER - ORNAMENTAL

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 4)

Iron Worker (Ornamental) - First Year

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $25.98
Supplemental Benefit Rate per Hour: $16.00

Iron Worker (Ornamental) - Second Year

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $28.45
Supplemental Benefit Rate per Hour: $18.00

Iron Worker (Ornamental) - Third Year

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $30.80
Supplemental Benefit Rate per Hour: $19.00

Iron Worker (Ornamental) - Fourth Year

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $34.39
Supplemental Benefit Rate per Hour: $21.00

(Local #580)

IRON WORKER - STRUCTURAL

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 6)

Iron Worker (Structural) - 1st Six Months

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $30.23
Supplemental Benefit Rate per Hour: $61.90

Iron Worker (Structural) - 7- 18 Months

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $30.83
Supplemental Benefit Rate per Hour: $61.90

Iron Worker (Structural) - 19 - 36 months

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $31.44
Supplemental Benefit Rate per Hour: $61.90

(Local #40 and #361)

LABORER - HEAVY & HIGHWAY

(Ratio Apprentice to Journeyperson: 1 to 1, 1 to 3)

Laborer (Foundation, Concrete, Excavating, Street Pipe Layer & Common) - First 1000 hours

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate Per Hour: 50% of Journeyperson's rate
Supplemental Rate Per Hour: $54.03

Laborer (Foundation, Concrete, Excavating, Street Pipe Layer & Common) - Second 1000 hours

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate Per Hour: 60% of Journeyperson's rate
Supplemental Rate Per Hour: 54.03

Laborer (Foundation, Concrete, Excavating, Street Pipe Layer & Common) - Third 1000 hours

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate Per Hour: 75% of Journeyperson's rate
Supplemental Rate Per Hour: 54.03

Laborer (Foundation, Concrete, Excavating, Street Pipe Layer & Common) - Fourth 1000 hours

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate Per Hour: 90% of Journeyperson's rate
Supplemental Rate Per Hour: $54.03

(Local #731)

LABORER - PAVER & ROADBUILDER

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 3)

Paver and Roadbuilder - First Year (Minimum 1000 hours)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $31.36
Supplemental Benefit Rate per Hour: $26.67

Paver and Roadbuilder - Second Year (Minimum 1000 hours)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $33.00
Supplemental Benefit Rate per Hour: $26.67

(Local#1010)

LABORER - PAVER AND ROADBUILDER - LINE STRIPING (ROADWAY)

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 3)

Paver and Roadbuilder - Line Striping (Roadway) - First Year (Minimum 1000 hours)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $31.36
Supplemental Benefit Rate per Hour: $19.27

Paver and Roadbuilder - Line Striping (Roadway) - Second Year (Minimum 1000 hours)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $33.00
Supplemental Benefit Rate per Hour: $19.27

(Local #1010)

MARBLE MECHANICS

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 4)

Cutters & Setters - First 750 Hours

Effective Period: 7/1/2024 - 6/30/2025
Wage and Supplemental Rate Per Hour: 40% of Journeyperson's rate

NO BENEFITS PAID DURING THE FIRST TWO MONTHS (PROBATIONARY PERIOD)

Cutters & Setters - Second 750 Hours

Effective Period: 7/1/2024 - 6/30/2025
Wage and Supplemental Rate Per Hour: 45% of Journeyperson's rate

Cutters & Setters - Third 750 Hours

Effective Period: 7/1/2024 - 6/30/2025
Wage and Supplemental Rate Per Hour: 50% of Journeyperson's rate

Cutters & Setters - Fourth 750 Hours

Effective Period: 7/1/2024 - 6/30/2025
Wage and Supplemental Rate Per Hour: 55% of Journeyperson's rate

Cutters & Setters - Fifth 750 Hours

Effective Period: 7/1/2024 - 6/30/2025
Wage and Supplemental Rate Per Hour: 60% of Journeyperson's rate

Cutters & Setters - Sixth 750 Hours

Effective Period: 7/1/2024 - 6/30/2025
Wage and Supplemental Rate Per Hour: 65% of Journeyperson's rate

Cutters & Setters - Seventh 750 Hours

Effective Period: 7/1/2024 - 6/30/2025
Wage and Supplemental Rate Per Hour: 70% of Journeyperson's rate

Cutters & Setters - Eighth 750 Hours

Effective Period: 7/1/2024 - 6/30/2025
Wage and Supplemental Rate Per Hour: 75% of Journeyperson's rate

Cutters & Setters - Ninth 750 Hours

Effective Period: 7/1/2024 - 6/30/2025
Wage and Supplemental Rate Per Hour: 85% of Journeyperson's rate

Cutters & Setters - Tenth 750 Hours

Effective Period: 7/1/2024 - 6/30/2025

Wage and Supplemental Rate Per Hour: 95% of Journeyperson's rate

Polishers & Finishers - First 900 Hours

Effective Period: 7/1/2024 - 6/30/2025
Wage and Supplemental Rate Per Hour: 70% of Journeyperson's rate

NO BENEFITS PAID DURING THE FIRST TWO MONTHS (PROBATIONARY PERIOD)

Polishers & Finishers - Second 900 Hours

Effective Period: 7/1/2024 - 6/30/2025
Wage and Supplemental Rate Per Hour: 80% of Journeyperson's rate

Polishers & Finishers - Third 900 Hours

Effective Period: 7/1/2024 - 6/30/2025
Wage and Supplemental Rate Per Hour: 90% of Journeyperson's rate

(Local #7)

MASON TENDER

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 3)

Mason Tender - First Year

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $22.05
Supplemental Benefit Rate per Hour: $10.77

Mason Tender - Second Year

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $23.80
Supplemental Benefit Rate per Hour: $10.77

Mason Tender - Third Year

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $25.30
Supplemental Benefit Rate per Hour: $10.77

Mason Tender - Fourth Year

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $27.80
Supplemental Benefit Rate per Hour: $10.77

(Local #79)

MASON TENDER (INTERIOR DEMOLITION WORKER)

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 3)

Mason Tender (Interior Demolition) - First Year

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $21.30
Supplemental Benefit Rate per Hour: $10.97

Mason Tender (Interior Demolition) - Second Year

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $23.05
Supplemental Benefit Rate per Hour: $10.97

Mason Tender (Interior Demolition) - Third Year

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $24.55
Supplemental Benefit Rate per Hour: $10.97

Mason Tender (Interior Demolition) - Fourth Year

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $27.05
Supplemental Benefit Rate per Hour: $10.97

(Local #79)

METALLIC LATHER

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 3)

Metallic Lather (First Year)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $22.55
Supplemental Benefit Rate per Hour: $17.87

Metallic Lather (Second Year)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $23.60
Supplemental Benefit Rate per Hour: $16.87

Metallic Lather (Third Year)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $24.60
Supplemental Benefit Rate per Hour: $15.92

Metallic Lather (Fourth Year)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $25.65
Supplemental Benefit Rate per Hour: $14.92

(Local #46)

MILLWRIGHT

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 4)

Millwright (First Year)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $32.16
Supplemental Benefit Rate per Hour: $37.78

Millwright (Second Year)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $37.61
Supplemental Benefit Rate per Hour: $41.48

Millwright (Third Year)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $43.06
Supplemental Benefit Rate per Hour: $45.83

Millwright (Fourth Year)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $53.96
Supplemental Benefit Rate per Hour: $52.59

(Local #740)

PAINTER

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 3)

Painter - Brush & Roller - First Year

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $17.60
Supplemental Benefit Rate per Hour: $19.09

Painter - Brush & Roller - Second Year

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $22.00
Supplemental Benefit Rate per Hour: $24.46

Painter - Brush & Roller - Third Year

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $26.40
Supplemental Benefit Rate per Hour: $28.80

Painter - Brush & Roller - Fourth Year

Effective Period: 7/1/2024 - 6/30/2025

Wage Rate per Hour: $35.20
Supplemental Benefit Rate per Hour: $37.24

(District Council of Painters)

PAINTER - BRIDGE & STRUCTURAL STEEL

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 3)

Painter - Bridge & Structural Steel (First Year)

Effective Period: 7/1/2024 - 6/30/2025
Wage and Supplemental Rate Per Hour: 40% of Journeyperson's rate

Painter - Bridge & Structural Steel (Second Year)

Effective Period: 7/1/2024 - 6/30/2025
Wage and Supplemental Rate Per Hour: 60% of Journeyperson's rate

Painter - Bridge & Structural Steel (Third Year)

Effective Period: 7/1/2024 - 6/30/2025
Wage and Supplemental Rate Per Hour: 80% of Journeyperson's rate

(Local #806)

PAINTER - METAL POLISHER

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 3)

Metal Polisher (First Year)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $19.67
Supplemental Benefit Rate per Hour: $8.66
New Construction - Wage Rate Per Hour: $20.06
Scaffold Over 34 Feet - Wage Rate Per Hour: $22.17

Metal Polisher (Second Year)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $21.63
Supplemental Benefit Rate per Hour: $8.66
New Construction - Wage Rate Per Hour: $22.07
Scaffold Over 34 Feet - Wage Rate Per Hour: $24.13

Metal Polisher (Third Year)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $23.60
Supplemental Benefit Rate per Hour: $8.66
New Construction - Wage Rate Per Hour: $24.14
Scaffold Over 34 Feet - Wage Rate Per Hour: $26.10

(Local 8A-28)

PLASTERER

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 3)
(Each Term is 800 Hours.)

Plasterer - First Term

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate Per Hour: 55% of Journeyperson's rate
Supplemental Rate Per Hour: $17.48

Plasterer - Second Term

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate Per Hour: 60% of Journeyperson's rate
Supplemental Rate Per Hour: $18.63

Plasterer - Third Term

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate Per Hour: 70% of Journeyperson's rate
Supplemental Rate Per Hour: $20.93

Plasterer - Fourth Term

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate Per Hour: 75% of Journeyperson's rate
Supplemental Rate Per Hour: $22.10

(Local #262)

PLASTERER - TENDER

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 3)

Plasterer Tender - First Year

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $21.55
Supplemental Benefit Rate per Hour: $11.27

Plasterer Tender - Second Year

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $23.30
Supplemental Benefit Rate per Hour: $11.27

Plasterer Tender - Third Year

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $24.80
Supplemental Benefit Rate per Hour: $11.27

Plasterer Tender - Fourth Year

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $27.30
Supplemental Benefit Rate per Hour: $11.27

(Local #79)

PLUMBER

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 3)

Plumber - First Year: 1st Six Months

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $19.00
Supplemental Benefit Rate per Hour: $5.43

Plumber - First Year: 2nd Six Months

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $21.00
Supplemental Benefit Rate per Hour: $6.43

Plumber - Second Year

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $30.22
Supplemental Benefit Rate per Hour: $22.73

Plumber - Third Year

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $32.32
Supplemental Benefit Rate per Hour: $22.73

Plumber - Fourth Year

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $35.17
Supplemental Benefit Rate per Hour: $22.73

Plumber - Fifth Year: 1st Six Months

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $36.57
Supplemental Benefit Rate per Hour: $22.73

Plumber - Fifth Year: 2nd Six Months

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $48.64
Supplemental Benefit Rate per Hour: $22.73

(Plumbers Local #1)

POINTER, WATERPROOFER, CAULKER, SANDBLASTER, STEAMBLASTER

(Exterior Building Renovation)
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 4)

Pointer, Waterproofer, Caulker, Sandblaster, Steamblaster - First Year

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $32.76
Supplemental Benefit Rate per Hour: $15.10

Pointer, Waterproofer, Caulker, Sandblaster, Steamblaster - Second Year

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $37.09
Supplemental Benefit Rate per Hour: $20.30

Pointer, Waterproofer, Caulker, Sandblaster, Steamblaster - Third Year

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $42.97
Supplemental Benefit Rate per Hour: $24.05

Pointer, Waterproofer, Caulker, Sandblaster, Steamblaster - Fourth Year

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $51.60
Supplemental Benefit Rate per Hour: $25.05

(Bricklayer District Council)

ROOFER

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 2)

Roofer - First Year

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate Per Hour: 38% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: $7.67

Roofer - Second Year

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate Per Hour: 45% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: $17.69

Roofer - Third Year

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate Per Hour: 50% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: $19.61

Roofer - Fourth Year

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate Per Hour: 60% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: $23.45

Roofer - Fifth Year

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate Per Hour: 75% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: $29.22

(Local #8)

SHEET METAL WORKER

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 3)

Sheet Metal Worker (0-6 Months)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate Per Hour: 25% of Journeyperson's rate
Supplemental Rate Per Hour: $7.64

Sheet Metal Worker (7-18 Months)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate Per Hour: 35% of Journeyperson's rate
Supplemental Rate Per Hour: $21.49

Sheet Metal Worker (19-30 Months)

Effective Period: 7/1/2024 - 6/30/2025

Wage Rate Per Hour: 45% of Journeyperson's rate
Supplemental Rate Per Hour: $29.09

Sheet Metal Worker (31-36 Months)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate Per Hour: 55% of Journeyperson's rate
Supplemental Rate Per Hour: $34.41

Sheet Metal Worker (37-42 Months)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate Per Hour: 55% of Journeyperson's rate
Supplemental Rate Per Hour: $34.41

Sheet Metal Worker (43-48 Months)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate Per Hour: 70% of Journeyperson's rate
Supplemental Rate Per Hour: $42.42

Sheet Metal Worker (49-54 Months)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate Per Hour: 70% of Journeyperson's rate
Supplemental Rate Per Hour: $42.42

Sheet Metal Worker (55-60 Months)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate Per Hour: 80% of Journeyperson's rate
Supplemental Rate Per Hour: $47.76

(Local #28)

SIGN ERECTOR

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 4)

Sign Erector - First Year: 1st Six Months

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate Per Hour: 35% of Journeyperson's rate
Supplemental Rate Per Hour: $17.84

Sign Erector - First Year: 2nd Six Months

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate Per Hour: 40% of Journeyperson's rate
Supplemental Rate Per Hour: $20.25

Sign Erector - Second Year: 1st Six Months

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate Per Hour: 45% of Journeyperson's rate
Supplemental Rate Per Hour: $22.66

Sign Erector - Second Year: 2nd Six Months

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate Per Hour: 50% of Journeyperson's rate
Supplemental Rate Per Hour: $25.09

Sign Erector - Third Year: 1st Six Months

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate Per Hour: 55% of Journeyperson's rate
Supplemental Rate Per Hour: $33.83

Sign Erector - Third Year: 2nd Six Months

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate Per Hour: 60% of Journeyperson's rate
Supplemental Rate Per Hour: $36.81

Sign Erector - Fourth Year: 1st Six Months

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate Per Hour: 65% of Journeyperson's rate
Supplemental Rate Per Hour: $40.63

Sign Erector - Fourth Year: 2nd Six Months

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate Per Hour: 70% of Journeyperson's rate
Supplemental Rate Per Hour: $43.70

Sign Erector - Fifth Year

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate Per Hour: 75% of Journeyperson's rate
Supplemental Rate Per Hour: $46.76

Sign Erector - Sixth Year

Effective Period: 7/1/2024 - 6/30/2025

Wage Rate Per Hour: 80% of Journeyperson's rate
Supplemental Rate Per Hour: $49.80

(Local #137)

STEAMFITTER
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 3)

Steamfitter - First Year

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate and Supplemental Per Hour: 40% of Journeyperson's rate

Steamfitter - Second Year

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate and Supplemental Rate Per Hour: 50% of Journeyperson's rate.

Steamfitter - Third Year

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate and Supplemental Rate per Hour: 60% of Journeyperson's rate.

Steamfitter - Fourth Year

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate and Supplemental Rate Per Hour: 70% of Journeyperson's rate.

Steamfitter - Fifth Year

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate and Supplemental Rate Per Hour: 80% of Journeyperson's rate.

(Local #638)

STEAMFITTER - REFRIGERATION & AIR CONDITIONER
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 3)

Refrigeration & Air Conditioner (First Year)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $22.31
Supplemental Benefit Rate per Hour: $14.47

Refrigeration & Air Conditioner (Second Year)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $26.94
Supplemental Benefit Rate per Hour: $15.91

Refrigeration & Air Conditioner (Third Year)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $31.38
Supplemental Benefit Rate per Hour: $17.41

Refrigeration & Air Conditioner (Fourth Year)

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $37.90
Supplemental Benefit Rate per Hour: $19.44

(Local #638-B)

STONE MASON - SETTER

(Ratio Apprentice of Journeyperson: 1 to 1, 1 to 2)

Stone Mason - Setters - First 750 Hours

Effective Period: 7/1/2024 - 6/30/2025
Wage and Supplemental Rate Per Hour: 50% of Journeyperson's rate

Stone Mason - Setters - Second 750 Hours

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate Per Hour: 60% of Journeyperson's rate
Supplemental Rate Per Hour: 50% of Journeyperson's rate

Stone Mason - Setters - Third 750 Hours

Effective Period: 7/1/2024 - 6/30/2025

Wage Rate Per Hour: 70% of Journeyperson's rate
Supplemental Rate Per Hour: 50% of Journeyperson's rate

Stone Mason - Setters - Fourth 750 Hours

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate Per Hour: 80% of Journeyperson's rate
Supplemental Rate Per Hour: 50% of Journeyperson's rate

Stone Mason - Setters - Fifth 750 Hours

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate Per Hour: 90% of Journeyperson's rate
Supplemental Rate Per Hour: 50% of Journeyperson's rate

Stone Mason - Setters - Sixth 750 Hours

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate Per Hour: 100% of Journeyperson's rate
Supplemental Rate Per Hour: 50% of Journeyperson's rate

(Bricklayers District Council)

TAPER

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 4)

Drywall Taper - First Year

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $21.75
Supplemental Benefit Rate per Hour: $15.00

Drywall Taper - Second Year

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $24.24
Supplemental Benefit Rate per Hour: $24.71

Drywall Taper - Third Year

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $29.08
Supplemental Benefit Rate per Hour: $26.67

Drywall Taper - Fourth Year

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate per Hour: $38.78
Supplemental Benefit Rate per Hour: $30.59

(Local #1974)

TILE LAYER - SETTER

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 4)

Tile Layer - Setter - First 750 Hours

Effective Period: 7/1/2024 - 6/30/2025
Wage and Supplemental Rate Per Hour:35% of Journeyperson's rate

Tile Layer - Setter - Second 750 Hours

Effective Period: 7/1/2024 - 6/30/2025
Wage and Supplemental Rate Per Hour 40% of Journeyperson's rate

Tile Layer - Setter - Third 750 Hours

Effective Period: 7/1/2024 - 6/30/2025
Wage and Supplemental Rate Per Hour: 50% of Journeyperson's rate

Tile Layer - Setter - Fourth 750 Hours

Effective Period: 7/1/2024 - 6/30/2025
Wage and Supplemental Rate Per Hour: 55% of Journeyperson's rate

Tile Layer - Setter - Fifth 750 Hours

Effective Period: 7/1/2024 - 6/30/2025
Wage and Supplemental Rate Per Hour: 60% of Journeyperson's rate

Tile Layer - Setter - Sixth 750 Hours

Effective Period: 7/1/2024 - 6/30/2025
Wage and Supplemental Rate Per Hour: 65% of Journeyperson's rate

Tile Layer - Setter - Seventh 750 Hours

Effective Period: 7/1/2024 - 6/30/2025
Wage and Supplemental Rate Per Hour: 70% of Journeyperson's rate

Tile Layer - Setter - Eighth 750 Hours

Effective Period: 7/1/2024 - 6/30/2025
Wage and Supplemental Rate Per Hour: 75% of Journeyperson's rate

Tile Layer - Setter - Ninth 750 Hours

Effective Period: 7/1/2024 - 6/30/2025
Wage and Supplemental Rate Per Hour:80% of Journeyperson's rate

Tile Layer - Setter - Tenth 750 Hours

Effective Period: 7/1/2024 - 6/30/2025
Wage and Supplemental Rate Per Hour: 90% of Journeyperson's rate

(Local #7)

TIMBERPERSON

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 6)

Timberperson - First Year

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate Per Hour: $24.96
Supplemental Rate Per Hour: $37.69

Timberperson - Second Year

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate Per Hour: $30.07
Supplemental Rate Per Hour: $37.69

Timberperson - Third Year

Effective Period: 7/1/2024 - 6/30/2025
Wage Rate Per Hour: $37.72
Supplemental Rate Per Hour: $37.69

Timberperson - Fourth Year

Effective Period: 7/1/2024 - 6/30/2025

Wage Rate Per Hour: $45.38
Supplemental Rate Per Hour: $37.69

(Local #1536)

THE CITY OF NEW YORK
OFFICE OF THE COMPTROLLER
1 CENTRE STREET ROOM 1120
NEW YORK, N.Y. 10007-2341

TELEPHONE: (212) 669-3622
FAX NUMBER: (212) 669-8499

Leonard A. Mancusi
SENIOR ASSISTANT COMPTROLLER

ALAN G. HEVESI
COMPTROLLER

MEMORANDUM

November 6, 2000

To *Agency Chief Contracting Officers*

From: *Leonard A. Mancusi*

Re: *Security at Construction Sites*

Prior to the enactment of Administrative Code §6-109, security guards on construction sites were not subject to prevailing wages. Security guards under the New York State labor law are covered under §230 which provides that prevailing wages are to be paid for security guards in existing buildings. §6-109 of the Administrative Code which was enacted in 1996 closed this loophole by including all security guards working pursuant to a city contract as a prevailing wage trade.

Although some construction contract boilerplate language has been amended to include §6-109, sub-contractors performing security services have advised us that they were not aware of this provision and, since traditionally, security guards were not a covered trade on construction sites, and they were not advised by a prime contractor that they would have to pay prevailing wages, they have not been doing so.

To avoid the possibility of issuing stop payments against prime contractors for the failure of their security service sub-contractors to pay

prevailing wages, we suggest that you write to all your existing security guard sub-contractors and their primes and in the future, upon approval of a security guard sub-contractor, advise the contractors of their obligation to pay prevailing wages under §6-109 of the Administrative Code.

As always, your cooperation is appreciated.

LAM:er
ACCO.SECURITY AT SITES

THE CITY OF NEW YORK
OFFICE OF THE COMPTROLLER
BUREAU OF LABOR LAW
1 CENTRE STREET
NEW YORK, NY 10007

BRAD LANDER
COMPTROLLER

COMPTROLLER'S PREVAILING WAGE MEMORANDUM REGARDING FLAG PERSONS

June 1, 2024

This memorandum supersedes and replaces the Comptroller's Prevailing Wage Memoranda dated May 21, 1998 and related clarification dated March 13, 2001 concerning Flag Persons. This memorandum sets forth the superseding determination of the New York City Comptroller concerning the applicability of Article 8, Section 220 of the New York Labor Law (the "Labor Law") to individuals who perform traffic control duty or "flagger" tasks in connection with public works construction projects within the jurisdiction of the City of New York. The guidance set forth herein is effective July 1, 2024 and applies only to public works contracts and subcontracts solicited on or after such date.

For purposes of this memorandum, "traffic control duty" means tasks necessary or appropriate to alleviate congestion by directing the flow of pedestrian and/or vehicular traffic away from the vicinity of the construction site using a sign or flag. Workers performing traffic control duty in connection with a public works construction project, whether or not such workers are on, adjacent to, or in close proximity to the construction site, are performing the work of a construction "laborer," as directing traffic away from the job site serves to protect the public and safeguard the work crew. Such workers are thus subject to the prevailing wage requirements of Article 8, Section 220 of the Labor Law as "laborers, workmen, or mechanics." Accordingly, the Prevailing Rate of Wages and Supplements applies to such individuals.

Additionally, workers who perform "flagger" tasks relating to the protection of the public and/or work crew, including but not limited to erecting traffic cones, setting up construction site barriers, and directing the movement of trucks or construction equipment in, on, and off the site, also are subject to the requirements of Article 8, Section 220 of the Labor Law and the Prevailing Rate of Wages and Supplements.

This position is consistent with the New York State Department of Labor's position under Article 8 of the New York Labor Law and the U.S. Department of Labor's position under the Davis-Bacon Act and will promote and streamline compliance with prevailing wage requirements on the various public works construction projects within New York City.

If the trade performing the underlying work performs its own flagging or traffic control, e.g., bridge painters, the flagger or traffic control worker shall receive the same wages as the underlying trade. In the absence of an underlying trade, the flagger or traffic control worker shall receive the wages as set forth in the "Flagger" section of the New York City Comptroller's Construction Worker Prevailing Wage Schedule.

Contractors, agencies, and members of the public are encouraged to contact the Bureau of Labor Law to seek clarification regarding specific instances to ensure compliance with prevailing wage regulations and this memorandum.

Department of Design and Construction

DIVISION OF INFRASTRUCTURE
BUREAU OF DESIGN

VOLUME 2 OF 3

PROJECT ID: SANDRDHK

Red Hook Coastal Resiliency (RHCR)
Atlantic Basin and Beard Street

Including Roadway Reconstruction, Road Raising, Sidewalk and Curb Reconstruction, Retaining Structure, Floodwalls, Strom Sewer, Water Main, Pedestrian Ramps, Street Lighting, Pavement Marking and Traffic Signal Work

Together With All Work Incidental Thereto
BOROUGH OF BROOKLYN
CITY OF NEW YORK

_____

Contractor

_____

Dated_____, **20**___

_____

APPROVED AS TO FORM
CERTIFIED AS TO LEGAL AUTHORITY

_____

Acting Corporation Counsel

_____

Dated_____, **20**___

_____

Department of Design and Construction

THE CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF INFRASTRUCTURE
30-30 THOMSON AVENUE
LONG ISLAND CITY, NY, 11101
TEL: 718.391.1000
WEB: www.nyc.gov/ddc

TO BE FILLED IN BY THE BIDDER:

BIDDER'S NAME:

_____

_____

BID SECURITY (CIRCLE ONE):
BID BOND / CERTIFIED CHECK

NUMBER OF ADDENDUMS RECEIVED AND ATTACHED TO BID:
____ ADDENDUMS

DDC CLIENT AGENCY:
THE DEPARTMENT OF ENVIRONMENTAL PROTECTION
PREPARED BY:
NV5
DATE PREPARED:
4/25/2024

VOLUME 3 OF 3

FOR FURNISHING ALL LABOR AND MATERIALS NECESSARY AND REQUIRED FOR:

PROJECT ID: SANDRDHK

SCHEDULE A SPECIFICATIONS AND REVISIONS TO STANDARD SPECIFICATIONS

RED HOOK COASTAL RESILIENCY (RHCR) ATLANTIC BASIN AND BEARD STREET

INCLUDING ROADWAY RECONSTRUCTION, ROAD RAISING, SIDEWALK AND CURB RECONSTRUCTION, RETAINING STRUCTURES, FLOODWALLS, STORM SEWER, WATER MAIN, PEDESTRIAN RAMPS, STREET LIGHTING, PAVEMENT MARKINGS AND TRAFFIC SIGNAL WORK

TOGETHER WITH ALL WORK INCIDENTAL THERETO

BOROUGH OF BROOKLYN

CITY OF NEW YORK

VOLUME 3 OF 3

TABLE OF CONTENTS

SECTION	DESCRIPTION	PAGES
	SPECIFICATIONS AND STANDARDS OF NEW YORK CITY	
SCHEDULE A	GENERAL CONDITIONS TO CONSTRUCTION CONTRACT	
R - PAGES	REVISIONS TO STANDARD SPECIFICATIONS	
PROJECT DESCRIPTION	PROJECT DESCRIPTION AND NYSDOT SPECIFICATION REFERENCES	
GENERAL PAGES	GENERAL SPECIAL SPECIFICATIONS	
PARKS PAGES	PARK SPECIFICATIONS	
FLOODWALL PAGES	FLOODWALL SPECIFICATIONS	
I - PAGES	NEW INFRASTRUCTURE SECTIONS	
S - PAGES	SPECIAL PROVISIONS	
SW - PAGES	SEWER AND WATER MAIN REVISIONS TO SPECIFICATIONS	
BMP - PAGES	BEST MANAGEMENT PRACTICE (BMP) AND MITIGATION AREA	
JB (5.0) - PAGES	JOINT BID	
FEMA - PAGES	FEDERAL EMERGENCY MANAGEMENT AGENCY PROJECTS	

SPECIFICATIONS AND STANDARDS OF NEW YORK CITY

The following specifications and standards are incorporated into the Contract Documents by reference as though fully set forth herein.

1. Standard Specifications and Drawings for New York City Department of Transportation (NYCDOT) are available:
   Online at: http://www1.nyc.gov/site/ddc/resources/publications.page
   a. NYC DOT Standard Highway Specifications
   b. NYC DOT Standard Details of Construction
   Online at: https://www1.nyc.gov/html/dot/html/about/dotlibrary.shtml#spec
   c. NYC DOT Division of Street Lighting Standard Drawings
   Online at: https://www1.nyc.gov/html/dot/downloads/pdf/nycdot-street-lighting-standard-drawings.pdf
   d. NYC DOT Standard Specifications for Traffic Signals
   e. NYC DOT Standard Drawings for Traffic Signals
   For purchase between 9:00 A.M. and 3:00 P.M. Bid Window, at 55 Water St., Ground Floor, NYC, N.Y. 10041. Tel. (212) 839-9435.
   f. NYC DOT Division of Street Lighting Specifications
2. The 2010 Americans with Disabilities Act (ADA) Standards; available online at: https://www.ada.gov/regs2010/2010ADAStandards/2010ADAstandards.htm
3. The 2013 Public Rights-of-Way Accessibility Guidelines (PROWAG); available online at: https://www.access-board.gov/files/prowag/PROW-SUP-SNPRM-2013.pdf
4. Standard Specifications and Drawings for New York City Department of Environmental Protection (NYCDEP) are available online at: http://www1.nyc.gov/site/ddc/resources/publications.page
   a. NYC DEP Standard Sewer and Water Main Specifications, August 8, 2022
   b. NYC DEP Instructions to Architect/Engineers Specifications for Concrete, January 1992
   c. NYC DEP General Specification 11-Concrete, November 1991
   d. NYC DEP Sewer Design Standards, March 27, 2023
   e. NYC DEP Water Main Standard Drawings, September 19, 2024
   f. Specifications for Trunk Main Work, July 2014
   g. Standard Green Infrastructure Specifications August 1, 2024
5. Standard Design and Guidelines for Green Infrastructure Practices, latest version, available only online at: https://www1.nyc.gov/assets/dep/downloads/pdf/water/stormwater/green-infrastructure/green-infrastructure-standard-designs.pdf
6. Standard Specifications and Drawings for New York City Fire Department Communications facilities of New York City are available online at https://www1.nyc.gov/assets/fdny/downloads/pdf/about/fdny-plant-operations-standard-drawings-specifications.pdf or for pick up from the FDNY Facilities Management Bureau, Plant Operations Engineering, 316 Sgt. Beers Avenue Cluster 1 Box 16, Fort Totten, N.Y. 11359. Contact: Mr. Ed Durkin, Tel. (718) 281-3933
7. Tree Planting Standards of the City of New York Parks & Recreation are available at the following Department of Parks & Recreation website: http://www.nycgovparks.org/pagefiles/53/Tree-Planting-Standards.pdf
8. Standards and Specifications for Utility Joint Bid work are available online at http://www1.nyc.gov/site/ddc/resources/publications.page
   a. CET SPECIFICATIONS AND SKETCHES, dated November 2010
   b. JOINT-BIDDING SPECIFICATIONS AND SKETCHES FOR MANHATTAN, Issued August 1, 2005

SCHEDULE A

(GENERAL CONDITIONS TO CONSTRUCTION CONTRACT (INCLUDING GENERAL CONDITIONS RELATED TO ARTICLE 22 – INSURANCE)

PART I. REQUIRED INFORMATION

INFORMATION FOR BIDDERS SECTION 26 BID SECURITY The **Contractor** shall obtain a bid security in the amount indicated to the right.	Required provided the TOTAL BID PRICE set forth on the Bid Form is $1,000,000. or more. Certified Check: 2% of Bid Amount or Bond: 10% of Bid Amount
INFORMATION FOR BIDDERS SECTION 26 PERFORMANCE AND PAYMENT BONDS The **Contractor** shall obtain performance and payment bonds in the amount indicated to the right.	Required for contracts in the amount of $1,000,000 or more. Performance Security and Payment Security shall each be in an amount equal to 100% of the Contract Price.
INFORMATION FOR BIDDERS DEPARTMENT OF DESIGN AND CONSTRUCTION SAFETY REQUIREMENTS The **Contractor** shall provide the safety personnel as indicated to the right.	■ Project Safety Representative ■ Dedicated, full-time Project Safety Manager
CONTRACT ARTICLE 14 AND SPECIAL HIGHWAY SPECIFICATION SECTION HW-900 IN THE GENERAL-PAGES DATE FOR SUBSTANTIAL COMPLETION The **Contractor** shall substantially complete the Work in the number of calendar days indicated to the right.	Substantial Completion: **1095** ccds; see also Page SA-4 Accelerated Substantial Completion: **1080** ccds
CONTRACT ARTICLE 15 LIQUIDATED DAMAGES If the **Contractor** fails to substantially complete the **Work** within the time fixed for substantial completion plus authorized time extensions or if the **Contractor**, in the sole determination of the **Commissioner**, has abandoned the **Work**, the **Contractor** shall pay to the **City** the amount indicated to the right.	$25,000.00 for each consecutive calendar day over Substantial Completion Time
CONTRACT ARTICLE 17. SUB-CONTRACTOR The **Contractor** shall not make subcontracts totaling an amount more than the percentage of the total **Contract** price indicated to the right.	Not to exceed 49 % of the **Contract** price

CONTRACT ARTICLE 21. **RETAINAGE** The **Commissioner** shall deduct and retain until the substantial completion of the **Work** the percent value of the **Work** indicated to the right.	5 % of the value of the **Work**
CONTRACT ARTICLE 22. **(Per Directions Below)**	See pages SA-5 through SA-12
CONTRACT ARTICLE 24. **DEPOSIT GUARANTEE** As security for the faithful performance of its obligations, the **Contractor**, upon filing its requisition for payment on **Substantial Completion**, shall deposit with the **Commissioner** a sum equal to the percentage of the **Contract** price indicated to the right.	1% of **Contract** price
CONTRACT ARTICLE 24. **PERIOD OF GUARANTEE** Periods of maintenance and guarantee other than the period set forth in Article 24.1 are indicated to the right.	Eighteen (18) Months, excluding Trees Twenty-four (24) Months for Trees and Planting
CONTRACT ARTICLE 75. **COMPENSATION TO BE PAID TO CONTRACTOR** The **City** shall pay and the **Contractor** shall accept in full consideration for the performance of the **Contract**, subject to additions and deductions as provided herein**,** the total sum **shown in the column to the right,** being the amount at which the **Contract** was awarded to the **Contractor** at a public letting thereof, based upon the **Contractor's** bid for the **Contract.**	Amount for which the **Contract** was Awarded: _____ _____ Dollars ($_____)
CONTRACT ARTICLE 79. **PARTICIPATION BY MINORITY-OWNED AND WOMEN-OWNED BUSINESS ENTERPRISES IN CITY PROCUREMENT**	See M/WBE Utilization Plan in the PASSPort Procurement M/WBE Considerations Section

STANDARD HIGHWAY SPECIFICATIONS **SECTION 6.40** **LIQUIDATED DAMAGES FOR ENGINEER'S FIELD OFFICE** If the Contractor fails to satisfactorily provide the field office and all equipment specified in **Section 6.40 - Engineer's Field Office**, and/or if a cited deficiency exceed seventy two (72) hours after notice from the Engineer in writing, or is permitted to recur, liquidated damages will be assessed in the amount specified herein for each subsequent calendar day or part thereof that a cited deficiency resulting in nonpayment, as described in **Section 6.40.5**, is not corrected.	$ 800.00 for each calendar day of deficiency
STANDARD HIGHWAY SPECIFICATIONS **SECTION 6.70** **LIQUIDATED DAMAGES FOR MAINTENANCE AND PROTECTION OF TRAFFIC**	$ 400.00 for each instance of failure to comply with the Maintenance and Protection of Traffic requirements within three (3) hours after written notice from the Engineer. $ 800.00 for each and every hour of failing to open the entire width of roadway to traffic the morning following a night/weekend work operation.
STANDARD HIGHWAY SPECIFICATIONS **SECTION 7.13** **LIQUIDATED DAMAGES FOR MAINTENANCE OF SITE** If the Contractor fails to comply, within three (3) consecutive hours after written notice from the Engineer, with the requirements of **Section 7.13 - Maintenance of Site**, the Contractor shall pay to the City of New York, until such notice has been complied with or rescinded, the sum specified above per calendar day, for each instance of such failure, as liquidated damages and not as a penalty, for such default.	$ 5,000.00 for each calendar day, for each occurrence

Date for Substantial Completion (Reference: Article 14)

The Contractor shall substantially complete the Work within the Final Contract Duration determined in accordance with the terms and conditions set forth herein.

The Base Contract Duration for this project is 1095 consecutive calendar days ("ccds").

The Final Contract Duration shall be the Base Contract Duration when a check mark is indicated before the word "NO", below, and shall be the Base Contract Duration adjusted by the table set forth below when a check mark is indicated before the word "YES", below.

_____ YES √ NO

When the Final Contract Duration is indicated above to be adjusted by the table below, the table may increase the Base Contract Duration depending on the date of scheduled substantial completion to avoid a scheduled substantial completion of the Work during the winter months. The date of scheduled substantial completion shall be determined by adding the Base Contract Duration to the date specified to commence work in the written Notice to Proceed. The Final Contract Duration shall then be determined as follows:

(a) Find the row that corresponds to the month of substantial completion based on the Base Contract Duration added to the date specified to commence work in the written Notice to Proceed.

(b) Find the number of days to be added to the Base Contract Duration in the table below. Add that number of days to the Base Contract Duration to obtain the Final Contract Duration in consecutive calendar days.

Month of Substantial Completion based on the Base Contract Duration	Number of Days of adjustment
January	150
February	120
March	90
April	60
May	30
June	0
July	0
August	0
September	0
October	0
November –December 15	0
December 16 – December 31	180

In addition, should Item No. 9.30, "Storm Water Pollution Prevention," exist in the Contract and the Commissioner determines that the required Storm Water Pollution Prevention Plan (SWPPP) does not conform to NYSDEC's recommended Standards, an additional 60 ccd will be added to the above Final Contract Duration, at the sole discretion of the Commissioner.

(GENERAL CONDITIONS RELATING TO ARTICLE 22 – INSURANCE)

PART II. TYPES OF INSURANCE, MINIMUM LIMITS AND SPECIAL CONDITIONS

Note: All certificate(s) of insurance submitted pursuant to Contract Article 22.3. 3 must be accompanied by a Certification by Broker consistent with Part III below and include the following information:

- **For each insurance policy, the name and NAIC number of issuing company, number of policy, and effective dates;**
- **Policy limits consistent with the requirements listed below;**
- **Additional insureds or loss payees consistent with the requirements listed below; and**
- **The number assigned to the Contract by the City (in the "Description of Operations" field).**

Insurance indicated by a blackened box (■) or by X in a □ to left will be required under this contract

Types of Insurance (per Article 22 in its entirety, including listed paragraph)	Minimum Limits and Special Conditions
■ Commercial General Liability Art. 22.1.1	The minimum limits shall be $ 3,000,000 per occurrence and $ 6,000,000 per project aggregate applicable to this **Contract.** Additional Insureds: 1. City of New York, including its officials and employees, with coverage at least as broad as ISO Form CG 20 10 and CG 20 37, 2. All person(s) or organization(s), if any, that Article 22.1.1(b) of the **Contract** requires to be named as Additional Insured(s), with coverage at least as broad as ISO Form CG 20 26. The Additional Insured endorsement shall either specify the entity's name, if known, or the entity's title (e.g., Project Manager), 3. U.S. Department of Housing and Urban Development (HUD), including its officials and employees 4. New York City Economic Development Corporation (EDC) , including its officials and employees. 5. The Federal Emergency Management Agency (FEMA) , including its officials and employees; 6. The New York State Division of Homeland Security and Emergency Services (DHSES) , including its officials and employees 7. The Consolidated Edison Company of New York, Inc. 8. Verizon New York, Inc. 9. National Grid USA

■ Workers' Compensation Art. 22.1.2 ■ Disability Benefits Insurance Art. 22.1.2 ■ Employers' Liability Art. 22.1.2 ☐ Jones Act Art. 22.1.3 ☐ U.S. Longshoremen's and Harbor Workers Compensation Act Art. 22.1.3	Workers' Compensation, Employers' Liability, and Disability Benefits Insurance: Statutory per New York State law without regard to jurisdiction. **Note:** The following forms are acceptable: (1) New York State Workers' Compensation Board Form No. C-105.2, (2) State Insurance Fund Form No. U-26.3, (3) New York State Workers' Compensation Board Form No. DB-120.1 and (4) Request for WC/DB Exemption Form No. CE-200. The City will not accept an ACORD form as proof of Workers' Compensation or Disability Insurance. Jones Act and U.S. Longshoremen's and Harbor Workers' Compensation Act: Statutory per U.S. Law.
☐ Builders' Risk Art. 22.1.4	☐ Required: 100% of total bid amount ☐ Required: 100 % of total bid amount for Item(s): **Contractor** the Named Insured; the **City** both an Additional Insured and one of the loss payees as its interests may appear. If the **Work** does not involve construction of a new building or gut renovation work, the **Contractor** may provide an installation floater in lieu of Builders Risk insurance. Note: Builders Risk Insurance may terminate upon **Substantial Completion** of the **Work** in its entirety.
■ Commercial Auto Liability Art. 22.1.5	$ 2,000,000 per accident combined single limit If vehicles are used for transporting hazardous materials, the **Contractor** shall provide pollution liability broadened coverage for covered vehicles (endorsement CA 99 48) as well as proof of MCS 90

☐Contractors Pollution Liability Art. 22.1.6	$ 5,000,000 per occurrence $ 5,000,000 aggregate Additional Insureds: 1. City of New York, including its officials and employees, and 2. _____ 3. _____
☐ Marine Protection and Indemnity Art. 22.1.7(a)	$_____ each occurrence $_____ aggregate Additional Insureds: 1. City of New York, including its officials and employees, and 2. _____ 3. _____
☐ Hull and Machinery Insurance Art. 22.1.7(b)	$_____ per occurrence $_____ aggregate Additional Insureds: 1. City of New York, including its officials and employees, and 2. _____ 3. _____
☐ Marine Pollution Liability Art. 22.1.7(c)	$ 1,000,000 per occurrence $ 1,000,000 aggregate Additional Insureds: 1. City of New York, including its officials and employees, and 2. _____ 3. _____

[OTHER] Art. 22.1.8 ☐ Railroad Protection Liability Policy (ISO-RIMA or equivalent form) approved by Permittor covering the work to be performed at the designated site and affording protection for damages arising out of bodily injury or death, physical damage to or destruction of property, including damage to the Insured's own property and conforming to the following: • Policy Endorsement CG 28 31 - Pollution Exclusion Amendment is required to be endorsed onto the policy when environmental-related work and/or exposures exist. • Indicate the Name and address of the Contractor to perform the work, the Contract # and the name of the railroad property where the work is being performed and the Agency Permit. • Evidence of Railroad Protective Liability Insurance, must be provided in the form of the Original Policy. A detailed Insurance Binder (ACORD or Manuscript Form) will be accepted pending issuance of the Original Policy, which must be provided within 30 days of the Binder Approval.	$ 2,000,000 per occurrence $ 6,000,000 annual aggregate Named Insureds: 1. New York City Transit Authority (NYCTA), the Manhattan and Bronx Surface Transit Operation Authority (MaBSTOA), the Staten Island Rapid Transit Operation Authority (SIRTOA), MTA Capital Construction Co., the Metropolitan Transportation Authority (MTA) including its subsidiaries and affiliates, and the City of New York (as Owner) and all other indemnified parties.

[OTHER] Art. 22.1.8

■ Professional Liability

A. The Contractor's Professional Engineer shall maintain and submit evidence of Professional Liability Insurance in the minimum amount of $1,000,000 per claim. The policy or policies shall include an endorsement to cover the liability assumed by the Contractor under this Contract arising out of the negligent performance of professional services or caused by an error, omission or negligent act of the Contractor's Professional Engineer or anyone employed by the Contractor's Professional Engineer.

B. Claims-made policies will be accepted for Professional Liability Insurance. All such policies shall have an extended reporting period option or automatic coverage of not less than two (2) years. If available as an option, the Contractor's Professional Engineer shall purchase extended reporting period coverage effective on cancellation or termination of such insurance unless a new policy is secured with a retroactive date, including at least the last policy year.

[OTHER] ■ Engineer's Field Office **Section 6.40, Standard Highway Specifications**	Art. 22.1.8	Fire insurance, extended coverage and vandalism, malicious mischief and burglary, and theft insurance coverage in the amount of $40,000
[OTHER]	Art. 22.1.8	

■ The Following Additional Insurance Must Be Provided:

Umbrella/Excess Liability Insurance - The Contractor shall provide Umbrella/Excess Liability Insurance in the minimum amount of $75,000,000 per Occurrence and $75,000,000 in Aggregate. The policy terms and condition should be at least as broad as the underlying policies. The underlying policies should comply with the insurance provision as outlined by the contract. Defense cost should be in addition to the limit of liability. The City of New York, including its officials and employees, should be included as additional insured as respects to the noted project.

Per **Article 22.2.5** of the **Standard Construction Contract:** The Contractor may satisfy its insurance obligations as defined in this Schedule A through primary policies or a combination of primary and excess/umbrella policies, so long as all policies provide the scope of coverage required herein.

SCHEDULE A
(GENERAL CONDITIONS TO CONSTRUCTION CONTRACT)
(GENERAL CONDITIONS RELATING TO ARTICLE 22 – INSURANCE)

PART III. CERTIFICATES OF INSURANCE

All certificates of insurance (except certificates of insurance solely evidencing Workers' Compensation Insurance, Employer's Liability Insurance, and/or Disability Benefits Insurance) must be accompanied by one of the following:

(1) the Certification by Insurance Broker or Agent on the following page setting forth the required information and signatures;

-- OR --

(2) copies of all policies as certified by an authorized representative of the issuing insurance carrier that are referenced in such certificate of insurance. If any policy is not available at the time of submission, certified binders may be submitted until such time as the policy is available, at which time a certified copy of the policy shall be submitted.

CITY OF NEW YORK

CERTIFICATION BY INSURANCE BROKER OR AGENT

The undersigned insurance broker represents to the City of New York that the attached Certificate of Insurance is accurate in all material respects.

_____
[Name of broker or agent (typewritten)]

_____
[Address of broker or agent (typewritten)]

_____
[Email address of broker or agent (typewritten)]

_____
[Phone number/Fax number of broker or agent (typewritten)]

_____
[Signature of authorized official, broker, or agent]

_____
[Name and title of authorized official, broker, or agent (typewritten)]

State of .....)
) ss.:
County of .....)

Sworn to before me this _____ day of _____, 20____

_____
NOTARY PUBLIC FOR THE STATE OF _____

SCHEDULE A

(GENERAL CONDITIONS TO CONSTRUCTION CONTRACT)

PART IV. ADDRESS OF COMMISSIONER

Wherever reference is made in Article 7 or Article 22 to documents to be sent to the **Commissioner** (e.g., notices, filings, or submissions), such documents must be sent through email to insurance@ddc.nyc.gov. Hard copy documents of the above requirement are no longer required.

(NO FURTHER TEXT ON THIS PAGE)

R - PAGES

REVISIONS TO STANDARD SPECIFICATIONS

NOTICE

The Specification Bulletin(s) ("SB(s)") referenced in this Section (R-Pages) may consist of revisions to the following Standard Specifications:

- New York City Department of Transportation ("NYC DOT") Standard Highway Specifications, dated 5/16/2022;
- New York City Department of Environmental Protection ("NYC DEP") Standard Sewer and Water Main Specifications, dated 8/8/2022;
- NYC Department of Environmental Protection ("NYC DEP") Standard Green Infrastructure Specifications, dated 8/1/2024; and
- NYC DEP Specifications for Trunk Main Work, dated 7/2014.

The SB(s) modify and supersede portions of the applicable Standard Specifications. The provisions contained in this Contract's I-Pages, S-Pages and SW-Pages may further modify the applicable Standard Specifications.

The following active SB(s) are included as part of this contract:

- *SB 22-006 – INCREMENTAL COST NEAR TRANSIT FACILITIES*
- *SB 23-001 – SEWER DESIGN STANDARDS*
- *SB 23-002 – PIPE BOLLARD*
- *SB 23-003 – MOBILIZATION*
- *SB 23-004 – SUSTAINABLE CONSTRUCTION*
- *SB 24-001 – CEMENT, PORTLAND*
- *SB 24-002 – SHEETING AND BRACING*
- *SB 24-003 – CORNER CURB*
- *SB 24-004 – PIGMENTING*
- *SB 24-006 – REINFORCED CONCRETE SEWERS*
- *SB 24-007 – DRAINS TO BE KEPT CLEAN*
- *SB 24-008 – PAYMENT REQUISITIONS*

- *SB 24-010 – FLAGGERS, CROSSING GUARDS, AND PEDESTRIAN MANAGERS*
- *SB 24-011 – ALLOWANCE FOR RAILROAD FACILITY PERMITTING (ALL TYPES)*

The SB(s) are available online at:
http://www1.nyc.gov/site/ddc/resources/specification-bulletins.page

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PROJECT DESCRIPTION

PROJECT DESCRIPTION AND NYSDOT SPECIFICATION REFERENCES

CONTRACT SANDRDHK

The following pages provide the Project description and the parameters for using New York State Department of Transportation (NYSDOT) Specifications as part of the Contract Work.

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TABLE OF CONTENTS

PROJECT DESCRIPTION 1
CONCRETE 1
OVERLAPPING SCOPES OF WORK 1
NYSDOT SPECIFICATIONS 1

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PROJECT DESCRIPTION

The SANDRDHK project, also known as Red Hook Coastal Resiliency, or RHCR is located in within the Red Hook neighborhood of Brooklyn and spans approximately 1.5 miles, generally mirroring the waterfront, one block inland between Summit Street (Northwest) and Columbia Street (Southeast). The alignment runs almost entirely within the NYC DOT Right-of-way with the exception of the NYNJ Port Authority property at Atlantic. It continues landward along Ferris, Van Dyke, Conover and Beard Streets terminating at Todd Triangle adjacent to Red Hook Park. There are two additional disconnected improvements along Bay Street between Columbia and Clinton Streets and on Court Street between Bay Street and Lorraine Street. The RHCR Project will improve resiliency in the Red Hook neighborhood through built infrastructure while also capitalizing on opportunities to extend the Brooklyn Waterfront Greenway and create a better public environment for the neighborhood.

This goal will be realized by using a combination of floodwalls and closure structures. The floodwalls are comprised of above-ground concrete floodwalls and buried seepage barriers. Closure structures are defined as flood gates, which are deployable steel structures that act as movable wall components. These gates vary in type and size based on site-specific requirements, but generally are comprised of hydraulically actuated flip up gates which are typically stored as fully recessed in the ground and roller gates which slide along a track to seal off a defined opening in a floodwall.

The RHCR system includes components that prevent storm tide from entering the protected area and components that evacuate interior stormwater (combined sanitary sewage and stormwater). New York City's existing combined sewer system is to be utilized as the interior drainage system for the RHCR system. Existing regulators, sewer chambers, and tide gates are components which are being integrated into the RHCR system. Backflow preventers and sluice gates are new components which are being constructed on the existing combined sewer system to serve the RHCR system. These components will mitigate coastal water from flowing backwards within the combined sewer system and into the protected area.

CONCRETE

The architectural concrete construction used for the exposed floodwall and retaining wall require review, selection and acceptance of samples and mockups by the Engineer or **by the Commissioner** at an early stage. The use of a formliner is required continually for the floodwall and retaining walls. In order to ensure consistent color throughout the Project, the concrete mix should be comprised from uniform aggregate sources and types not varied without approval of the Engineer. A no cost substitute for an alternative concrete mix is acceptable only if it provides consistent color throughout the Project.

OVERLAPPING SCOPES OF WORK

Due to the size, complexity, and varied types of Work in this Contract, certain elements of Work may be covered under multiple pay items and/or multiple specification sections. The bidder must clearly read the specifications and fully understand what scope is included in each pay item. Just because an item exists does not imply that the item will be used in all portions of the Contract Work.

NYSDOT SPECIFICATIONS

All requirements as defined in the City of New York Standard Construction Contract ("Standard Construction Contract") are to be followed. NYSDOT specific construction management and contractual requirements that are referenced in NYSDOT specifications are not to be inadvertently incorporated or take precedent

over Contract Requirements, including the Standard Construction Contract, Special Specifications or Provisions, the New York City Department of Transportation Standard Highway Specifications, or the New York City Department of Environmental Protection Standard Sewer and Water Specifications.

References are made herein to certain NYSDOT specifications. All references to the "Department", "Materials Bureau", "Regional Engineer", "Regional Landscape Architect", "Landscape Architect", "DCES", or other reference to NYSDOT offices or personnel are deemed to mean the "ENGINEER" as that term is defined in the Standard Construction Contract. However, where references are made to materials or Contractors or subcontractors being required to appear on NYSDOT approved lists, these references and requirements remain unchanged.

Reference to NYSDOT specifications will not be deemed to imply NYSDOT or New York State involvement in any testing and approval of materials or in the supervision of construction. In the event of a conflict, the Standard Construction Contract, the Contract Drawings and New York City Specifications will prevail over any NYSDOT specifications, unless the ENGINEER directs otherwise.

ITEM NUMBER	SPECIFICATION NAME	SPECIFICATION TYPE
203.20	SELECT GRANULAR SUBGRADE	NYSDOT STANDARD
206.030100ER	CONDUIT EXCAVATION AND BACKFILL	NYSDOT STANDARD
607.4101001	TEMPORARY PLASTIC BARRIER FENCE	NYSDOT STANDARD
619.01	BASIC WORK ZONE TRAFFIC CONTROL	NYSDOT STANDARD
661.0100100	TEMPORARY ELECTRICAL SERVICE	NYSDOT STANDARD
670.7002	SINGLE CONDUCTOR CABLE, NUMBER 2 GAGE	NYSDOT STANDARD
670.7005	SINGLE CONDUCTOR CABLE, NUMBER 8 GAGE	NYSDOT STANDARD
670.2002	GALVANIZED STEEL CONDUIT,1”	NYSDOT STANDARD
670.2003	GALVANIZED STEEL CONDUIT, 2”	NYSDOT STANDARD
670.75010005	GROUNDING ROD	NYSDOT STANDARD
670.900100ER	ELECTRICAL SERVICE INSTALLATION	NYSDOT STANDARD
680.513000M0	PROPERTY LINE BOX	NYSDOT STANDARD

ITEM NUMBER	SPECIFICATION NAME	SPECIFICATION TYPE
680.528008	CONDUIT, PVC SCHEDULE 80, 3"	NYSDOT STANDARD
680.5280010	CONDUIT, PVC SCHEDULE 80, 4"	NYSDOT STANDARD
698.05	FUEL PRICE ADJUSTMENT	NYSDOT STANDARD
615.08XXNN39	WORLD'S FAIR BENCH – RPL SLATS – NYCDPR	NYSDOT STANDARD

PIN APPROVED SPECIFICATIONS ARE LOCATED IN THE NYSDOT PAY ITEM CATALOG: www.dot.ny.gov/pic

NYSDOT STANDARD SPECIFICATIONS ARE LOCATED ON THE NYSDOT WEBSITE: https://www.dot.ny.gov/main/business-center/engineering/specifications/busi-e-standards-usc

Special Specifications are located in Volume 3 of this Contract.

GENERAL

GENERAL SPECIAL SPECIFICATIONS

CONTRACT SANDRDHK

The specification in the GENERAL-Pages provide requirements for construction management and execution of the Work.

The GENERAL-Pages supplement and modify the specifications shown on the Specifications and Standards of New York City sheet at the beginning of this Volume 3, which apply to the Work except as modified in these Contract Documents.

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TABLE OF CONTENTS

Section	Description	Page No.
SECTION HW-900	— ALLOWANCE FOR MAXIMUM INCENTIVE FOR EARLY COMPLETION/LIQUIDATED DAMAGES	1
SECTION HW-900H	— ALLOWANCE FOR CITY WORK ACCELERATION	5
SECTION RHCR-HW-901	— TEMPORARY CONSTRUCTION MEASURES	6
SECTION RHCR-6.01	— CLEARING AND GRUBBING	29
SECTION 6.40 CR	— ENGINEER'S FIELD OFFICE	32
SECTION 6.52	– FLAGGERS, CROSSING GUARDS, AND PEDESTRIAN MANAGERS	39
SECTION 6.47 PCA	– DETECTABLE WARNING SURFACE PAVER	42
SECTION HW-908	— ALLOWANCE FOR EXTRA WORK DUE TO ARCHEOLOGICAL DISCOVERIES	46
SECTION RHCR 6.25 GS	— GREENWAY REROUTING SIGNS	47
SECTION RHCR-10	— AIR QUALITY MONITORING	50
SECTION RHCR-15	— OPERATION AND MAINTENANCE DATA	52
SECTION RHCR 60	– STEEL SLEEVE	58
SECTION RHCR-76.11	— PRECONSTRUCTION REPORT	63
SECTION RHCR-76.21	— MONITORING AND POST-CONSTRUCTION REPORT	66
SECTION 9.06 HW	— ALLOWANCE FOR DECORATIVE MESH FABRIC	70
SECTION RHCR 9.30	- STORMWATER POLLUTION PREVENTION	71
SECTION GI-2.07	— CLEAN OPEN GRADED STONE	77
SECTION GI-2.09DR	— GEOTEXTILE FABRIC FOR DRAINAGE	81
SECTION GI-2.16	— HIGH DENSITY POLYETHYLENE (HDPE) PIPE	84
SECTION GI-2.16A	— PVC PIPE	87
SECTION 7.14	– SUSTAINABLE CONSTRUCTION	90
SECTION RHCR 6.35	– SLIDING GATE	104
SECTION RHCR 6.35 OH	– RESIDENTIAL OVERHEAD DOORS	112
SECTION RHCR 8.23 BD	– BULKHEAD DOOR	116
SECTION RHCR 8.23 RD	– CORROSION RESISTANT ROLLING SERVICE DOORS	118
SECTION RHCR 51.23 WT	– WATERTIGHT MANHOLE FRAMES AND COVER	123
SECTION RHCR-055136	- PREFABRICATED MODULAR ALUMINUM STAIRS AND PLATFORMS	126
SECTION RHCR = 6.94 FGD	Furnish, Deliver & Install Fiberglass Trench Drains	128

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SECTION HW-900 — ALLOWANCE FOR MAXIMUM INCENTIVE FOR EARLY COMPLETION/LIQUIDATED DAMAGES

HW-900.01 GENERAL

Since Project SANDTWOBR is critical to the City and the coastal resiliency of Manhattan and TIME IS OF THE ESSENCE, the City is making available to the Contractor certain incentive payments. The incentive payment amount will be tied to an Accelerated Substantial Completion Date for this Capital Project. To earn an incentive payment amount, the Contractor must meet the Accelerated Substantial Completion Date for this Capital Project. Please be advised that in the event the Scheduled Substantial Completion Date for this Capital Project is extended by the City in accordance with **Article 13 "Extension Of Time For Performance"** of the Standard Construction Contract, the Accelerated Substantial Completion Date may be extended accordingly.

Any dispute, negotiation and/or any other cause resulting in a delay, whether caused by the City, the Utilities, or any other party, which results in the Contractor's failure to meet the Accelerated Substantial Completion Date as set forth in **Subsection HW-900.2**, will result in no payment of the entire incentive and the Contractor agrees that it shall not bring a claim against the City for the incentive payment. (See below for more details.)

The Contractor is a sophisticated business entity involved in the construction industry with access to legal representation and understands that by entering into this Contract with the City that the Contractor hereby waives any and all claims it may have against the City or any of its officials, employees or agencies for the Contractor failing to meet the Accelerated Substantial Completion Date and, thus not receiving any incentive payment available for this Capital Project. This includes any portion of the incentive payment, which the Contractor forfeits by failing to meet the Accelerated Substantial Completion Date. As a sophisticated business entity involved in the construction industry, the Contractor understands that it is possible that it may not receive any incentive under this Contract and that it cannot bring any claim or lawsuit in any jurisdiction against the City if it does not meet the Accelerated Substantial Completion Date for any reason and does not earn the incentive payment.

Furthermore, the Contractor will not have a claim against the City for a compensable delay under **Article 11** of the Standard Construction Contract, or any other claim against the City, if the City does not pay any incentive for this Capital Project because the Contractor did not meet the Accelerated Substantial Completion Date, and the Contractor's failure to meet such Accelerated Substantial Completion Date is due to a delay by the City or any City agency, any Utilities or any other cause whatsoever.

The early completion incentive is separate and distinct from **Article 11** of the Standard Construction Contract and the Contractor agrees and understands that the incentive payment cannot be claimed under **Article 11** of the Standard Construction Contract.

Moreover, the Contractor hereby waives any and all rights (and hereby understands what it is waiving as described herein) the Contractor may have or thinks it has in law (contract law or torts law) or in this Contract to bring any kind of claim against the City, if the City, based on this Contract, does not pay the incentive amount for this Capital Project for any reason.

HW-900.02 INCENTIVE/LIQUIDATED DAMAGES

Timely completion of all work, excluding punchlist work, is essential to this project. In order to ensure such timely completion, the City is providing incentive payment or, in the event that the Contractor fails to meet the Scheduled Substantial Completion Date, liquidated damage assessment for this Contract, as set forth below.

The Contractor shall be assessed liquidated damages, per **Article 15** of the Standard Construction Contract and as shown in Schedule "A", in the event the Contractor fails to substantially complete all work, excluding punchlist work, within the time fixed for such completion in Schedule "A".

(A) GENERAL PROVISIONS:

(1) Two (2) types of incentive payment amounts are available to the Contractor under this **Section HW-900.** The amounts are set forth below in **Paragraph (E)** of this **Subsection HW-900.2**.

(2) An incentive payment will be authorized to the Contractor only if all Work of the Contract including, but not limited to, all change order work for the Contract, receives a determination of Substantial Completion, as defined in **Paragraph (G)** of this **Subsection HW-900.2**, below, by the Accelerated Substantial Completion Date, as defined in **Paragraph (C)** of this **Subsection HW- 900.2**, below.

(3) No incentive will be authorized for the early completion of the Contract in the event that Substantial Completion of the Work of the Contract occurs after the Accelerated Substantial Completion Date, regardless of delays, including delays attributable to the City. Examples of delays that may cause the Contractor to miss the Accelerated Substantial Completion Date and not earn the available incentive payment amounts include, without limitation, delays resulting from subsurface conditions at the site materially differing from any shown on the Contract Drawings or indicated in the Specifications, delays resulting from such subsurface conditions as could not reasonably have been anticipated by the Contractor and were not anticipated by the City, and delays due to private utilities, which conditions will materially affect the cost of the Work to be done under the Contract. Notwithstanding the above, the City may grant an extension of time in accordance with **Article 13** of the Standard Construction Contract for any or all of such delays.

(4) Liquidated damages will be assessed by the City against the Contractor if Substantial Completion of the Work of the Contract does not occur by the Scheduled Substantial Completion Date, plus authorized time extensions pursuant to **Article 13** of the Standard Construction Contract.

(5) The determination of incentive payment or liquidated damage assessment will be made solely by the City, and the City's decision with respect thereto shall be accepted as final, binding, and conclusive.

(B) SCHEDULED SUBSTANTIAL COMPLETION DATE:

(1) Both the scheduled commencement date and the Scheduled Substantial Completion Date, excluding punchlist work, are to be set forth in the written Notice to Proceed to be issued by the City in accordance with **Article 8** of the Standard Construction Contract. The number of consecutive calendar days for determining the Scheduled Substantial Completion Date is **1095** from the scheduled commencement date set forth in the Notice to Proceed.

(C) ACCELERATED SUBSTANTIAL COMPLETION DATE:

The Accelerated Substantial Completion date is set at fifteen (15) calendar days before the Scheduled Substantial Completion Date. The number of consecutive calendar days for determining the Accelerated Substantial Completion Date is **1080** from the scheduled commencement date set forth in the Notice to Proceed.

(D) INCENTIVE AND LIQUIDATED DAMAGES PAYMENTS:

(1) Incentive Payments:

Potential Incentive Payment No. 1: If the Work of the Contract including, but not limited to, all change order work, receives a determination of Substantial Completion prior to the Accelerated Substantial Completion Date, plus authorized time extensions under **Article 13** of the Standard Construction Contract, then the City, will authorize Incentive Payment No. 1 to the Contractor in accordance with **Paragraph (E)** of this **Subsection HW-900.2**, below, less any and all deductions authorized by this Contract or by law.

(2) Liquidated Damages: Should Substantial Completion of the Work occur after the Scheduled Substantial Completion Date set for the Contract, plus authorized time extensions pursuant to Article 13 of the Standard Construction Contract, or, if the

Contractor, in the sole determination of the City, should abandon the Work, the City will assess liquidated damages against the Contractor in an amount determined as follows: the liquidated damage amount for the Contract as stated in Paragraph (5) of this Subsection HW-900.2, below, multiplied by the number of calendar days in which Substantial Completion of the Work occurs after the Scheduled Substantial Completion Date set for the Contract, plus authorized extensions; which said sum, in view of the difficulty of accurately ascertaining the loss which the City will suffer by reason of delay in the completion of the Work hereunder, is hereby fixed and agreed as the liquidated damages that the City will suffer by reason of such delay, and not as a penalty.

This article shall also apply to the Contractor if it is defaulted pursuant to Chapter X of this Standard Construction Contract. Neither the failure to assess liquidated damages nor the granting of any time extension shall operate as a waiver or release of any claim the City may have against the Contractor for either actual or liquidated damages.

(3) Calculation: For the purposes of calculating the number of calendar days for incentive payment, such calculation shall include the calendar day on which the Accelerated Substantial Completion of the Contract occurs.

For the purposes of calculating the number of calendar days for liquidated damage assessment, such calculation shall not include the calendar day of Scheduled Substantial Completion of the Contract.

(E) INCENTIVE/LIQUIDATED DAMAGE AMOUNTS:

(1) Incentive Amounts:

a) Potential Incentive Payment No. 1: For early Substantial Completion of the Work prior to the Accelerated Substantial Completion Date, the additional incentive payment is equal to $25,000.00 per calendar day for a maximum of forty (40) calendar days before the Accelerated Substantial Completion Date ($1,000,000.00 maximum additional incentive)

b) Liquidated Damage Amount: $25,000.00 per calendar day for the Contract with no limit on days.

(F) MAXIMUM INCENTIVE/LIQUIDATED DAMAGE AMOUNTS:

(1) Maximum Incentive Payment: The maximum incentive amounts payable to the Contractor shall equal the incentive amounts indicated in Paragraph (5) of this Subsection HW-900.2, above, as follows:

$25,000.00/calendar day x 40 days = $1,000,000.00

(2) Liquidated Damage: There is no limit to the amount of liquidated damages assessed.

(G) SUBSTANTIAL COMPLETION:

(1) Construction within the Contract shall be substantially complete when, in the sole determination of the City, all Work, exclusive of landscaping and punchlist work, has been completed, tested, made operational, and accepted by the Engineer.

HW-900.03 BASIS OF PAYMENT.

(A) Payment for any incentives earned by the Contractor under this Capital Project shall be made in accordance with the applicable **Subsection HW-900.2(D)** above.

(B) The total estimated cost of this item is the “fixed sum” amount shown for this item in the Item Grid. No guarantee is given that the actual lump sum cost for this item will in fact be the “fixed sum” amount. The “fixed sum” amount is included in the total bid solely to ensure that sufficient monies will be available to pay any incentives earned by the Contractor.

(C) The “fixed sum” is for bidding purposes only and shall not be varied in the bid. The Contractor will be paid for the actual amount of any incentives earned, less any and all deductions authorized by this Contract or by law, regardless of the fixed sum.

Payment will be made under:

Item No.	Item Description	Pay Unit
HW-900	ALLOWANCE FOR MAXIMUM INCENTIVE FOR EARLY COMPLETION	F.S.

END OF SECTION

SECTION HW-900H — ALLOWANCE FOR CITY WORK ACCELERATION

Under this Section, the Contractor will be paid for City work deemed necessary by the City to accelerate the City work items in the Project during critical periods, but the use of this item will expire on the original Contract Substantial Completion Date. Such accelerated City work includes:

(A) 100% of the premium portions of overtime pay for working during non-scheduled work hours which must be defined as those hours of work outside the permissible hours stated in the original Contract OCMC Traffic Stipulations; or,

(B) The premium portion of overtime pay for overtime actually worked beyond the 40-hour work week but within the permissible hours of work stated in the original Contract OCMC Traffic Stipulations; or,

(C) All other incidental expenditures caused by modifications of project site regulations or administrative requirements ordered by the City that result in additional costs to perform Contract Work as specified.

Such accelerated City work must be paid for under this item in accordance with the requirements of Articles 25 and 26 of the Standard Construction Contract.

Payment made under this Fixed Sum item must cover the cost of all labor, materials, plant, equipment, insurance, and incidentals necessary to accelerate the City work as ordered by the City.

No guarantee is given that this allowance item will in fact be required in this Contract. The estimated "fixed sum" amount shown in the Bid Schedule is included in the total bid solely to ensure a method of payment for any accelerated work performed by the Contractor, as directed by the City.

Payment will be made under:

Item No.	Item	Pay Unit
HW-900H	ALLOWANCE FOR CITY WORK ACCELERATION	F.S

END OF SECTION

SECTION RHCR-HW-901 — TEMPORARY CONSTRUCTION MEASURES

RHCR-HW-901.01 DESCRIPTION

This section describes the Contractor's responsibilities and obligations for temporary measures required in any and all work locations necessary to accomplish the design in and around the site included in any other part of the Contract Drawings and Specifications.

The Contractor is advised that the overall Contract Documents are intended to indicate the existing conditions of the work site, as well as to provide direction and details of construction for the final reconstruction. The Contractor is responsible for the sequence of construction to allow the public to have uninterrupted access along Ferris, Beard, Van Brunt, Dyke and other project streets while construction of this project is ongoing. Additionally, the Contractor shall provide points of entry through the project area for public access connecting the neighborhood to points along the waterfront. Proposed details for access requirements are included in the MT-Series Maintenance and Protection of Traffic drawings included in the Contract Documents. Temporary disruptions are acceptable when necessary for completion of the Work and notice must be made to the City and public.

The Contractor shall coordinate all work with the appropriate agencies to facilitate on-going and planned construction, access, and maintenance to Red Hook Container Terminal, Brooklyn Cruise Terminal (Pier 12), New York City Ferry Terminal, Secret Service Building, Food Bazaar, Ikea and Businesses at (640 Columbia Street and 280 Richards Street). It shall be the Contractor's responsibility to develop a proposed workplan in coordination with the Engineer and the City of New York for stakeholder approval and potential overlap with adjacent projects. In order to limit potential impact, work will be limited during December-January and July-September adjacent to the aforementioned private properties. Specifically, work those impacts vehicle movements, and constrains site access and/or limits travel lanes should be scheduled outside these times.

In addition, the contractor will be constrained to work within the Atlantic Basin or Beard Street Steet Area. Work in both areas simultaneously will not be permitted in an effort to constrain construction activities geography and minimize impact to the local community.

To the extent possible the contractor is encouraged to consider waterfront access for delivery of materials and removal of waste. The neighborhood truck routes are severely congested from existing business operations and on-going private development. Limiting the number of additional trucks, deliveries by trucks and contract personal vehicles will have a positive impact on community relations.

The Contractor's Site-Specific Work Plan shall include specific details as to how public access shall be maintained before, during and after construction takes place, including schedule and durations for closures in the project area. A utility phasing plan shall explicitly address how the Contractor intends to maintain electric, plumbing, etc., in a manner that the open sections of the project area, before, during and after construction in each area, will function normally and safely and be maintained and operational in manner acceptable to the Engineer, Parks Department and the public.

The contractor is made aware that the neighborhood of Red Hook is currently protected by NYC's Interim Flood Protection Measures (IFPM) Program. This program includes but is not limited to Hesco Barriers and Deployable Tiger Dams. The contractor is required to review available plans and documentation associated with the IFPM Program to familiarize themselves with the goals, design, location and procedures. The contractor will be required to submit a Temporary Emergency Response Plan (ERP) showing how the site flood protection system will be maintained in each stage of construction in the event New York City Emergency Management (EM) issues a notice that a storm event is incoming and the system has be activated to protect the neighborhood of Red Hook from flooding.

The Work under this Section shall include any and all work required to meet the sequencing developed by the Contractor, and/or the Site Specific Work Plan submitted and proposed by the Contractor and accepted by the Engineer.

The Work under this Section includes but not is limited to the following:

- Any and all temporary fencing and secured access gates required due to specific Contractor sequencing plans.

- Temporary measures, including the delivery and installation of temporary walls and/or bracing, required due to grade differences between adjacent areas.
- Any and all temporary drainage structures and/or measures in the existing or newly installed partial sewer systems required due to the construction sequence. This includes but is not limited to temporary bulkheads, fluming and pumping, etc.
- Any and all temporary access required to both allow public access to the waterfront and businesses along the waterfront, to provide points of entry through the project area for deliveries and business activities, and to provide and maintain any and all required Contractor access to the work site.
- Any and all temporary measures required to ensure that existing and newly installed park utilities, including but not limited to irrigation, electric, plumbing, outside utilities, sanitation and any and all additional utilities necessary to maintain a safe and operational public space, are kept operational in a manner acceptable to the Engineer, Parks Department and the general public.
- Any and all temporary measures requires to ensure the IFPM system maintained until permit flood protection systems have been installed and accepted, including any and all temporary deployable measures (Hesco Barriers, Tiger Dams, Sandbags, etc.) as identified in the approved Temporary Emergency Response Plan.

The Contractor is placed on notice that the monitoring by the City of the temporary measures required by this section is considered for the purposes of the Contract to be a Project objective necessary to eliminate and/or mitigate public disruption and inconvenience, and to ensure public health and safety. The Contractor shall therefore, at all times, conduct operations in a manner which promotes clean and well-maintained public spaces, and ensures the convenience, safety and health of general users consisting of, but not limited to, the pedestrian, the cyclist, the motorist, and the abutting property owners/tenants, as well as those of the Contractor's employees.

The provisions of this section are supplementary to and do not abrogate the General Conditions (Section 1.06) or the General Notes on the Contract Drawings relating to the protection and cleanup of the site, and the delivery and storage of materials at the site. Furthermore, any conditions pertaining to the maintenance, protection, and cleanup of the construction site during the life of the Contract which are addressed in the General Conditions and in the General Notes on the Contract Drawings, whether or not addressed under this Section, shall be deemed as having been addressed under this Section.

RHCR-HW-901.02 METHODS

(A) GENERAL

Work under this Item shall start from the date of written notice to commence work or from the actual start of construction work, whichever is earlier.

The Contractor shall provide the necessary personnel, materials and equipment for all necessary temporary measures and equipment required by the Contractor's construction sequence plan. The Contractor shall be fully responsible for maintaining all temporary measures in an acceptable condition and protecting the completed work until relieved of such responsibility by acceptance of the Contract or the completed items of Work.

(B) TEMPORARY CONSTRUCTION MEASURES

The Contractor shall provide the necessary material, personnel and equipment required in any and all work locations necessary due to the sequenced construction as developed by the Contractor's s Site Specific Work Plan. Those items of Work required include but are not limited to the following:

(1) Temporary Fencing

In order that the Contractor shall maintain all areas at the work site in such a condition and conduct operations in such a manner that the public can navigate near and thru (as required) the work site significant temporary fencing shall be required. This fencing shall be placed along the Imlay Street greenway/shared use path, along Beard Street and "Ikea" Park/Pier, between open and under construction areas required by the specific

construction sequence and accepted, to provide a safe and designated public access from the neighborhood to waterfront, and any and all other areas that fencing is deemed by the Engineer to be required by the Contractor's Site Specific Work Plan. The Contractor shall submit to the Engineer for review and approval in advance of any Work the Contractor's specific fencing and gate plan for review and approval before site work begins. The fencing shall be moved, relocated, expanded and/ or reduced as deemed necessary. The fencing required under this section shall provide a physical barrier to safely separate the public and the Contractor's operations, such as shielded fending, concrete barrier and/or plywood enclosures. The specific details of the fencing shall be included as part of the fencing plan noted above.

This temporary fencing shall also include the installation, removal and staffing of all access gates into and out of the site. These gates shall be secured at all times and staffed around the clock in such a manner that other Contractors, parks department personnel and all emergency responders shall have immediate access when required.

(2) Temporary Drainage Structures

The Contractor shall be responsible for the continued operations of all existing drainage structures during the Work under this Contract until such time that their replacement, if any, is complete and new drainage flow and routes are established. The Contractor's Work Plan may result in the need to install, maintain and removed temporary drainage structures to meet this requirement. These temporary structures include but are not limited to temporary bulkheads, fluming, etc.

(3) Temporary Support and/or Walls Due to Grade Differentials

The Contractor's Site Specific Work Plan may result in significant grade differentials between and across those areas closed and under construction and those areas open to the public. Temporary walls and/or other measures separating these areas and accounting for the required grade changes shall be constructed and maintained by the Contractor. These measures shall serve to accommodate the grade changes, safeguard the public from entering the work site, minimize noise and dust infiltration into the adjacent areas.

The Contractor shall submit for approval specific means and measures for accommodating the grade changes and safeguarding and protecting the site for review and approval. The plan shall include the specific materials to be utilized, as well as all necessary installation and removal procedures.

(4) Temporary Measures (paths, lighting, ramps, etc.) to Provide Public Site Access

Areas and functions within and adjacent to the project area which are to remain open and available to the public at various stages of the Work shall be maintained in an operable and safe manner for public use. The Contractor's Site Specific Work Plan shall indicate, and the Contractor shall implement those measures necessary to assure that the public has adequate, safe and code compliant access to all open areas during all portions of the Work while being protected from the adjacent construction operations. This shall include temporary lighting as required by the Contractor's specific demolition and removal sequence.

The Contractor shall provide any and all temporary and/or permanent components required to provide for the public to have access along Beard Street to the "Ikea" Park/Pier, and to provide points of entry through the project area for public access to the waterfront. Multiple points of entry shall be provided between the neighborhood and the waterfront, and shall be provided at or near the existing cross street intersections within the project limits (Coffey, Richards, Dwight, and Ostego). Points of entry shall be a minimum of 20 feet wide to allow for bi-directional pedestrian and bicycle access. The locations of the points of entry may be shifted locally as needed by the Contractor to accommodate construction

operations, but shall provide and maintain safe and code compliant access paths at all times.

(5) Temporary Measures to Maintain Exiting Park Utilities

The Contractor's Site Specific Work Plan must include specific details as to how park utilities shall be maintained before, during and after construction takes place. This utility work plan shall specifically address how the Contractor intends to maintain site irrigation, electric, plumbing, etc., in a manner that the open sections of the project area will function normally and safely, and be maintained and operational in manner acceptable to the Engineer, the City, and the public.

(6) Temporary Measures to Maintain General Site Access

The Contractor's Site Specific Work Plan shall include all measures necessary to assure that the Contractor, as well as the contractors working on adjacent work areas, and any and all emergency vehicles, shall have safe access to the site both before and after the Work required under this Contract. These measures shall specifically include temporary paving, and subsequent maintenance, of any shared use construction path. This shall also include the installation, removal and staffing of all access gates into and out of the site as well as any and all Contractor proposed temporary entrance and exit ramps into the site. Note that all access gates shall be secured and manned 24 hours a day, 7 days a week in a manner to ensure that other contractors and any and all emergency or city maintenance vehicles have ready and unencumbered access to the site at all times.

In order to provide for timely public access to the reconstructed project area, the Contractor shall be free to open portions of the project which are substantially complete prior to Substantial Completion of the entire Project. Partial or segmented opening to the project area shall be coordinated with the City and the Engineer.

(7) Temporary Flood Control Measures

The Contractor shall perform any and all necessary work required to maintain the current IFPM system in accordance with EM and as directed by the Engineer. This includes all materials and measures required to full deploy temporary flood control measures in accordance with the approved Temporary Emergency Management Response Plan.

(8) Additional Measures

The Contractor shall perform any and all necessary work required to maintain the work site and all open park areas and amenities in a safe and secure manner, and in conformance with all applicable rules and regulations, regardless of those items explicitly included above and as directed by the Engineer.

The Contractor shall provide access signage, with signs at every street crossing (including those where waterfront access is closed off) indicating graphically the location of the viewer and what street crossings are open. Signs shall also be provided every 200 feet along the East River waterfront indicating graphically the location of the viewer, what street crossings are open, and the distance to each crossing. The Contractor shall be responsible for updating all signage elements whenever any access point opens/closes.

RHCR-HW-901.03 NONCONFORMANCE

No payment will be made under Item RHCR-HW-901 for each calendar day during which there are deficiencies in compliance with the foregoing specification requirements, as determined by the Engineer and made evident by the Engineer's failure to sign documents each day approving payment to be made under this item.

If the Contractor fails to maintain any and all of the items of Work required by Item RHCR-HW-901 or any portion thereof, adequately and safely for a period of three (3) or more consecutive hours, the Engineer may correct the adverse conditions by any means deemed appropriate, including, but not limited to, “outside services,” and shall deduct the cost of the corrective work from any monies due the Contractor. The cost of this work shall be in addition to the nonpayment for site maintenance listed above.

However, where continued nonconformance with the requirements of this specification is noted by the Engineer, and prompt Contractor compliance is deemed not to be obtainable, all Contract Work may be stopped by direct order of the Engineer, regardless of whether corrections are made by the Engineer as stated in the paragraph above. Any delays caused by such stoppage(s) will be the sole responsibility of the Contractor.

Furthermore, in addition to the remedies specified above, in the event the Contractor shall fail to comply, within three (3) consecutive hours after written notice from the Engineer, with the requirements of the Contract and the specifications in the matter of providing facilities and services for the maintenance, protection and cleanup of the construction site, the Contractor shall pay to the City of New York, until such notice has been complied with or rescinded, the sum shown per calendar day in Schedule A, for each instance of such failure, as liquidated damages and not as a penalty, for such default.

Any money due the City of New York under this provision shall be deducted from the amounts due or to become due to the Contractor for Work performed under the Contract.

RHCR-HW-901.04 MEASUREMENT

The unit price bid for installing, maintaining and removing (as necessary) any and all temporary construction measures shall include the cost of furnishing all labor, materials, plant, equipment, insurance and incidentals required to perform the services noted above and as directed by the Engineer. Payment will be made in proportion to the percentage of actual Contract completion based upon the original Contract value. Measurement for this item shall not begin until actual construction work is started at the site.

RHCR-HW-901.05 PRICE TO COVER

The unit price bid for Temporary Construction Measures shall include the cost of furnishing all labor, materials, plant, equipment, insurance and incidentals required to perform the services noted above, to provide safe and ready access to and maintenance of the site as described above, and in accordance with the directions of the Engineer.

Where no separate item is provided for this work, the cost thereof shall be deemed to be included under all scheduled items.

Payment will be made under:

Item No.	Item	Pay Unit
RHCR-HW-901	Temporary Construction Measures	Lump Sum

END OF SECTION

RHCR 4.11.1 INTENT.

This section describes Excavation and Filling necessary for the construction of the floodgates, floodwall, esplanade, cut-off wall and anchoring system, Williamsburg Bridge security system, and the raising of East River Park.

RHCR 4.11.2 DESCRIPTION.

(A) The location, general character and essential details shall be as specified and as shown on the Contract Drawings.

(B) Earth excavation shall include the removal and disposal of material of whatever nature encountered in the performance of the work, unless otherwise specified. Materials of whatever nature encountered shall be defined as including, but not be limited to, soil, stones, soft weathered rock that can be removed by mechanical means other than air hammer or drilling and blasting, and miscellaneous fill (excluding contaminated materials, debris and building demolition material consisting primarily of large wooden objects, plastic, asphalt shingles, metals, etc.) which is not classified as rock excavation or contaminated or hazardous wastes that materially affect the cost of removal and disposal to the Contractor.

Earth excavation shall not include the cost of excavation and disposal of boulders or parts thereof more than one-half (1/2) cubic yard in volume (to be measured by multiplying the maximum cross section area by seven tenths (7/10) of the length of that which is to be removed) in open cuts, rock as defined in Subsection 4.11.2.(C), materials which must be removed and disposed of as contaminated material or hazardous waste, manmade objects or structures not shown on the Contract Drawings or indicated in the specifications, that could not reasonably have been anticipated by the Contractor, were not anticipated by the City, and which materially affect the cost of excavation and disposal to the Contractor. Excavation and disposal of said materials will be paid for under other contract items where anticipated by the City or will be paid for as “Extra Work”, under Article 26 of the Standard Construction Contract, where the City deems the Contractor could not have reasonably anticipated the existence of such materials that significantly affects the Contractor’s costs of removal and disposal.

The dismantling and removal of the existing street lights, traffic signals and fire alarms will be done by the various departments having jurisdiction, except as otherwise provided. The existing foundations for these facilities shall be removed by the Contractor to a plane two (2’) feet below subgrade and such removal will be measured for payment under Earth Excavation.

(C) Rock Excavation shall include only the removal and disposal of unbroken ledge rock in its original formation which cannot be removed by ditching machines, ripper, rock plow, backhoe, or other mechanical means and which can only be removed by air hammers or by blasting, drilling or plug and feather in order to insure the prompt and proper performance of the work. It is not intended to cover softer rock formations encountered which can be removed by mechanical means other than air hammer or drilling and blasting.

(D) Grade shall mean the plane or planes through the tops of both curb lines.

(E) Rock subgrade for roadway area shall mean a plane two (2’) feet below and parallel to grade and two (2’) feet wider on each side than the roadway. Rock subgrade for sidewalk area shall mean a plane one (1’) foot below and parallel to grade. Rock subgrade for structures shall be to the depths required for the cradle and foundation of the structure.

(F) Filling shall include the furnishing, re-use, placement and compaction of approved material required. Filling shall be by Place Measurement or Vehicle Measurement, as specified.

(G) Excavation in earth for the footings of structures shall be carefully conducted so as to approach the neat lines as closely as possible without disturbing the underlying soil and hand excavation shall be used within the last twelve (12”) inches. Under no circumstances shall any backfilling material be placed upon surfaces to be used as foundation for footings. Where, in the opinion of the Engineer, the slope of existing rock surfaces requires it, rock shall be suitably benched to give full and proper bearing to concrete in accordance with the

directions of the Engineer. Rock surfaces shall be cleaned and if necessary washed before concrete is poured.

(H) All excavation and backfilling required for the installation of Sewers and Water Mains shall be done under the appropriately scheduled items in accordance with the requirements of the NYC Department of Design and Construction, Division of Infrastructure, Standard Sewer Specifications and Standard Water Specifications.

RHCR 4.11.3 SUBMITTALS

(A) PRODUCT DATA

Materials list of items proposed to be provided under this Section, including but not limited to, the following:

General Fill; including details of all sources of imported soil, fill or other material

Select Granular Fill; and

Lightweight Fill, including manufacturer test data and certification that the lightweight fill meets the specified properties.

(B) CERTIFICATES

Submit certificate stating that all materials and procedures meet or exceed the specified requirements of this Section.

(C) REPORTS

Tests of gradations, liquid limit, and plasticity index of fill and backfill materials. Tests of maximum dry density or maximum index density.

Settlement monitoring results.

RHCR 4.11.4 MATERIALS FOR FILL AND BACKFILL.

(A) GENERAL

All material for fill or backfill shall have a moisture content close to the optimum moisture content as determined by the Modified Proctor Test conducted in accordance with ASTM D1557.

All material for fill or backfill shall be natural or man-made materials, free of deleterious materials, and free from frost at the time of placement.

Miscellaneous fill material removed from trenches and excavations shall not be considered as acceptable backfill material unless found to be in compliance with these specifications and approved in writing by the Engineer. The project site subsurface conditions may consist partially of variable thickness layers of unsuitable material. This material may not be considered to be acceptable backfill material as described herein, or as determined by the Engineer.

Unless otherwise approved by the Engineer, the Contractor shall import only fill material that meets one of the following environmental criteria. If there is a conflict between the Remedial Action Plan (RAP) and this Section, the more stringent criteria shall apply.

(a) Virgin quarried material.

(b) NYSDOT-spec Recycled concrete aggregate (RCA), contains less than 10% fines and no asphalt, from facilities permitted or registered by NYSDEC.

(c) Material from a facility that possesses a current Beneficial Use Determination (BUD) from the NYSDEC that includes testing at a minimum frequency of one sample per 1,000 cubic yards and such results are below the lower of the Restricted Residential and Groundwater Protection SCOs set forth in NYSDEC 6 NYCRR Part 375. Any testing shall be conducted in accordance with Part 3.2.F.

(d) Material from any other site where testing results performed by the Engineer demonstrate that the material meets the lower of the Restricted Residential and Groundwater Protection SCOs set forth in NYSDEC 6 NYCRR Part 375 in accordance with the following procedures:

1) Contractor shall establish at the facility a designated stockpile of soil intended for import to the site. Designated stockpile shall remain undisturbed until tested by the Contractor and loaded and transported to the site.

2) The samples will be analyzed for Target Compound List (TCL) volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), pesticides, PCBs, and Target Analyte List (TAL) metals, at a frequency of one composite sample per 1,000 cubic yards. NYCDEP must approve of a lower frequency for certain sources.

3) Laboratory analysis and approval of samples may require five (5) to ten (10) business days.

4) Material may not be imported for use as without prior approval by the Engineer.

(e) Material from the New York City Office of Environmental Remediation Clean Soil Bank.

(B) FILL AND BACKFILL

Filling and Backfilling materials shall have a composition of inorganic soil, blasted or broken rock, and similar materials of natural or man-made origin, including mixtures thereof, shall be considered suitable materials provided it is free of shale or other soft, poor durability particles.

Glass from recycling facilities that meets the requirements of Subsection 4.11.4.(E) for Glass shall be considered suitable material for mixing with fill provided the Contractor maintains the gradations specified herein and as approved by the Engineer. However, glass shall not be placed in contact with synthetic liners, geogrids, geotextiles or other geosynthetics.

Glass incorporated into fill shall be thoroughly mixed with other suitable material so that glass constitutes no more than 30 percent by volume anywhere in the fill as visually determined by the Engineer.

The Fill and Backfill material shall meet the following gradation: U.S.

Sieve Size Passing	Percent
4 inch	100
2 inch	75 to 100
No. 4	22 to 66
No. 40	5 to 15
No. 200	0-2

Fill and Backfill, as specified above may be used up to 3 ft from finished grade or the bottom of the horticultural fill layer, where specified on the Contract Drawings. The upper 3 ft of fill material (below the finished grade or horticultural fill layer) shall meet the requirements of the Select Granular Fill, as defined below.

The Contractor may use, as fill, that portion of the excavated material conforming to these specifications. However, all materials used for fill shall be free from organic material and other unsuitable material. The only exception would be the allowable contamination of recycled glass.

Excavated materials not complying with the above specifications shall be considered unsuitable for fill and shall be removed from the job site to an approved disposal site.

(C) SELECT GRANULAR FILL

Select Granular Fill shall be a natural, well graded sand and crushed stone or approved clean earth of low silt and clay content, free from bricks, blocks, excavated pavement materials and debris, stumps, roots and other organic matter, as well as ashes, oil and other perishable or foreign material. All materials furnished under this item shall meet the following gradation:

U.S. Sieve Size	% Passing
2 inch	100
1 inch	85 to 100
1/2 inch	70 to 100
No. 4	50 to 80
No. 10	25 to 55
No. 20	11 to 30
No. 40	6 to 17
No. 60	4 to 12

No. 100	3 to 8
No. 200	0-2

Select granular fill for trench backfill material shall be well graded soil meeting the above gradation requirements, but not contain particles greater than ¼ inch in maximum dimension. The finest content (material passing the No. 200 sieve) shall not be greater than 2%.

(D) PROCESSED FILL

If approved in writing by the Engineer, excavated material determined to be unsuitable for fill may be processed (i.e. screened and/or crushed) to produce select granular fill material or fill material. Such processed materials for backfill must be in compliance with the material specifications herein for either Select Granular Fill or for Fill, as required. No separate or additional payment will be made for the cost of all labor, materials, plant, equipment, samples, tests and insurance necessary or required to perform this processing work. Payment for the costs of all labor, material, equipment and insurance necessary and required to furnish and deliver, and to place, compact, sample and test these processed acceptable backfill materials shall be in accordance with Subsection 4.11.7(C). (Excavated material that is hand groomed and/or groomed with the use of excavating equipment of bricks, blocks, pavement materials, debris, stumps, roots, stones, boulders, timber, wood, etc., so as to render the excavated material acceptable for backfill, whether ordered by the Engineer or at the Contractor's own discretion, shall not be considered as processed material but shall be considered as approved excavated suitable material. No separate or additional payment will be made for the use of this groomed excavated material as backfill, the cost of all labor and material shall be deemed included in the prices bid for all contract items of work.)

(E) GLASS

Glass shall be crushed to a maximum particle size of 3/8 inch.

Glass may contain up to a maximum of five (5%) percent by volume of china, ceramics, plate glass products, paper, plastics or other deleterious materials. The material shall be subject to visual inspection by the Engineer or their representative, and may be rejected based on this inspection. In case of rejection, the inspection will be documented in writing by the Engineer who shall indicate the basis of rejection.

(F) LIGHTWEIGHT FILL

Lightweight fill shall be expanded shale, clay or slate produced by the rotary kiln process and meeting the requirements of ASTM C330. The lightweight fill shall have a proven record of durability, and be non-corrosive, with the following properties:

Soundness Loss: The maximum soundness loss shall be 30% when tested, with 4 cycles of Magnesium sulfate, in accordance with AASHTO T104.

Abrasion Resistance: The maximum abrasion loss shall be 40% when tested in accordance with ASTM C131.

Chloride Content: The maximum chloride content shall be 100 ppm. pH between 6.5 and 9.0

Gradation:

U.S. Sieve Size	Percent Passing 1
inch	100
3/4 inch	90 to 100

3/8 inch	10 to 50
No. 4	0 to 15

The in-place compacted moist density shall be 75 lbs/ft^3. The lightweight aggregate producer shall submit verification of a compacted density of minimum 65 pcf (960 kg/m^3) when measured by the Modified Proctor test conducted in accordance with ASTM D1557, "Modified Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft^3 (2,700 kN-m/m^3)).

The minimum angle of internal friction Φ shall be 40 degrees. The lightweight aggregate producer shall submit verification that the angle of internal friction shall be greater than 40° when measured in a triaxial compression test on a laboratory sample with a minimum diameter of 10 inches.

(G) REUSE OF EXCAVATED SOIL

Material not characterized as hazardous soil or non-hazardous contaminated soil may be reused on-site beneath the site cap without prior approval by the Engineer in connection with the environmental requirements. If the Contractor anticipates reuse of site material as part of the Site cap, the Contractor shall notify the Engineer of the area with a minimum two (2) weeks' notice prior to reuse to allow for review by Engineer of sampling data and environmental reuse requirements in **Section RHCR 8.01 C1**.

(H) DRAINAGE CRUSHED STONE
Crushed stone used for weep holes drainage for the L-Walls shall be No. 57 stone as per ASTM D448.

RHCR 4.11.5 EARTH EXCAVATION METHODS.

(A) Excavation for streets shall:

(1) be made and maintained to roadway crowns, sidewalk area slopes and side slopes specified until the entire work is accepted;

(2) be made below grade to exposed rock, when soundings indicate the existence of rock between grade and rock subgrade;

(3) include the removal, as directed, of unsatisfactory material below grade;

(4) include the cutting of the side slopes in earth excavation to a slope of one and one-half (1-1/2) horizontal to one (1) vertical or such other approved slope as may be rendered necessary by local conditions, and no measurement beyond such approved limits of slope will be made or allowed for payment.

(B) Excavation for walls and other structures shall be made to the dimensions specified and shall be done as follows.

(1) GENERAL.

Trenches and pits shall be excavated to the depths required for cradle and foundation of structures. All trenches in earth shall be excavated with vertical sides, and shall be supported by close sheeting, properly braced. Sheeting and bracing shall extend from at least the existing surface of the ground to an adequate depth below the subgrade of the structure, except where otherwise specified on the Contract Drawings, or permitted by the Engineer in writing. Sheeting must be driven below the area of the pilot cut. Driving of sheeting above the pilot cut is subject to the directions of the Engineer.

Pilot cuts for trenches shall not exceed five (5') feet at any time. The Engineer may reduce the depth of the pilot cut should soil and subsurface conditions warrant such action.

The Engineer may direct the Contractor to use other types of equipment, and to revise the procedure during the excavation of the pilot trench and the driving of the sheeting should it be found necessary to do so.

In accordance with 29 CFR 1926.650, a trench is a narrow excavation (in relation to its length) made below the surface of the ground. In general, the depth is greater than the width, but the width of a trench (measured at the bottom) is not greater than fifteen (15') feet. If forms or other structures are installed or constructed in an excavation so as to reduce the dimension measured from the forms or structure to the side of the excavation to fifteen (15') feet or less, the excavation is also considered to be a trench. The Contractor shall provide protection from collapse and cave-in for any employee who enters a trench or other excavation in accordance with the requirements of 29 CFR 1926 Subpart P, unless the excavation is less than five (5') feet in depth and examination of the ground by the Contractor's "competent person" provides no indication of a potential cave-in. The Contractor shall include the proposed procedures to meet the excavation safety requirements in the Contractor's Project Safety and Health Plan. Trenching and excavation work shall be carried out under the supervision of the Contractor's "competent person." The Contractor shall provide ladders or ramps for access and egress within twenty-five (25') feet of an employee work area if a trench is four (4') feet or more deep. The Contractor shall keep traffic, equipment and materials at least two (2') feet away from the edge of any trench or excavation, or use retaining devices. When mobile equipment is operated near an excavation or must approach the edge of an excavation, either the operator must have a clear and direct view of the edge of the excavation; or a warning system of barricades, hand

signals or mechanical signals shall be used. Workers shall not be permitted under loads that are being handled by lifting or digging equipment.

Trenches under five (5') feet in depth need not be sheeted and braced, except where one of the following conditions exist: the trenches are in close proximity to existing structures or subsurface structures; where the Engineer, in writing, specifically prohibits the use of a non-sheeted trench; or where examination of the ground by a "competent person" provides indication of a potential cave-in, and trenches need to be sheeted and braced.

For the purposes of open excavations and trenches, the term "competent person" shall be defined as a person designated by the Contractor, in writing, who has had specific training in, and is knowledgeable about, soil analysis, the use of protective systems and the requirements of 29 CFR 1926 Subpart P, who is capable of identifying existing and predictable hazards in the surroundings, or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them.

Where shown, specified or permitted in writing by the Engineer, the sides of the trenches shall be sloped to elevations approved by the Engineer. Side slopes must be stable and shall be, in the dry, at least one and one half (1-1/2) vertical on one

(1) horizontal.

The subgrade of trenches shall be constructed neat and to the grades as shown in the Contract Documents, and as directed by the Engineer.

Upon completion of the trenches and excavations and prior to placement of structures, the Contractor shall take in-place soil density tests of the subgrade (the number and locations of these tests shall be as directed by the Engineer), and shall compact the subgrade, as directed by the Engineer, to a minimum of ninety (90) percent of Modified Proctor Maximum Dry Density.

(2) ADDITIONAL REQUIREMENTS FOR TRENCHES

(a) Where structures are to be supported on piles and the Contractor deems it necessary to widen the trench beyond the maximum widths herein specified in order to permit the driving of such piles, the Contractor shall apply to the Engineer in writing for permission to widen the trench.

(b) Any widening or enlargement of excavation permitted in writing by the Engineer upon the request of the Contractor in order to perform the work as specified in the Contract Documents and/or to expedite the Contractor's construction operations, will not be measured for any separate or additional payment, but the costs thereof shall be deemed included in the prices bid for all contract items of work.

(c) In rock trenches the Contractor may, with the written permission of the Engineer, omit the use of side forms. No rock shall project inside the minimum width vertical rock cut lines herein specified.

(d) Where the Contractor elects to cut the trench in rock by means that will result in overbreakage, rather than resorting to means which will insure adherence to the maximum allowable width of trench, the Contractor shall be required to fill the spaces between the edges of the external neat line of the poured-in-place structure and the sides of the rock cut with concrete, from subgrade of trench to a minimum height of two (2') feet

above the top of the footing.

(e) If the Contractor elects to carry the excavation in earth below the required subgrade of the trench, the Contractor shall backfill the trench to the required subgrade with either properly compacted Stone Ballast or with concrete, as directed by the Engineer. If the Contractor elects to carry the excavation in rock below the required subgrade of the trench, the Contractor shall backfill the trench to the required subgrade with concrete or stone ballast as directed by the Engineer. No separate or additional payment shall be made for such backfilling where required, nor for any additional excavation and sheeting, the cost thereof shall be deemed included in the prices bid for all contract items of work.

(f) The construction of adjacent sewers and/or water mains in the same trench shall be in accordance with the requirements of the NYCDEP Standard Sewer and Water Specifications.

(3) LENGTH OF TRENCH EXCAVATION.

The maximum length of trench excavation in roadway any time shall be as stipulated for the maintenance and protection of traffic.

Unless otherwise specified in the Contract Documents or ordered in writing by the Engineer, all trenches in rock shall be excavated to its full depth for a minimum distance of twenty (20') feet in advance of the length of structure permitted to be laid; however, the total length of trench shall not be less than fifty (50') feet. The only exception to this is at its upper end or ends, where rock shall be excavated to its full depth to a distance of not less than five (5') feet beyond the sewer to be built.

(4) EXPOSED STRUCTURES TO BE PROTECTED.

All exposed structures shall be carefully protected from the effects of blasts. Any damage done to such structures shall be promptly repaired by the Contractor at the Contractor's own expense.

(5) DISPOSAL OF WATER FROM EXCAVATIONS.

The Contractor shall at all times during the progress of the work keep the trenches and excavations free from water. The water from the trenches and excavations shall be disposed of in such a manner as will not cause injury to the public health, nor to public or private property, nor to the work completed or in progress, nor to the surface of the streets, nor cause any interference with the use of the same by the public. All sewers used for disposal of water from the trenches and excavation during construction shall be acceptably cleaned.

When in order to comply with the above, it is deemed necessary to widen the trench beyond the allowable maximum width, to permit the installation of well- points, the Contractor shall, as directed by the Engineer, provide either pipe of additional strength or concrete encasement at no additional cost to the City.

The Contractor shall, with their own equipment, provide dewatering where required at no additional cost to the City. The cost for all labor, equipment, materials, etc. required to dispose of water from the trenches shall be deemed included in the prices bid for all items of the Contract.

All dewatering and discharge pipes and hoses which cross traveled roadways shall

be placed in such a manner so as to eliminate any disruption of traffic flow. If so ordered by the Engineer, the Contractor shall place the pipes and hoses in shallow trenches which will then be plated over. All header pipe shall be buried below existing roadway grade at driveways in order to maintain access to driveways.

Contaminated water shall be placed in containers and treated prior to disposal.

All plates shall be firmly secured so as to eliminate any possible shift or movement.

All pumps used in the dewatering operation shall be electric and shall be powered directly from the electric grid (Con Edison drop), unless otherwise unavailable.

Where the subgrade of the trench cannot be maintained in a dry condition, except in locations where the structures are on piles, the Contractor shall excavate the trench to an additional depth of six (6”) inches below the subgrade of the sewer and backfill the trench to the subgrade of the sewer with stone ballast.

The cost for this additional excavation, sheeting, installation of stone ballast, labor, materials, plant, equipment and insurance required or necessary to complete this work shall be deemed included in the prices bid for the respective sewer or manhole items.

(A) Approved sheeting and bracing shall be used where necessary to support sides of excavation, in order to: prevent damage to subsurface structures and adjacent buildings; safeguard persons and property; minimize inconvenience to traffic and the public; protect the structure to be installed; and, provide suitable and safe working conditions. Except as otherwise provided, deviations from the above will be permitted only where, in the judgment of the Engineer, such exception will not result in any of the hazards described above.

In cases where sheeting and bracing will not adequately protect adjacent structures from damage and settlement, the Contractor will be required to use such methods as are necessary to safely support and maintain adjacent and abutting property and structures and to maintain the work safe to life, limb and property.

All sheeting and bracing systems that the Contractor elects to use or that are ordered to use by the Engineer or the Department shall comply with the requirements of **Section 40.05**, “SHEETING AND BRACING,” of the NYC Department of Environmental Protection, Bureauof Water and Sewer Operations, Standard Sewer and Water Main Specifications, and must receive the approvals stated therein.

Unless otherwise specified in the Contract Drawings or these Specifications or specifically permitted in writing by the Engineer, the Contractor shall be required to withdraw and remove all sheeting and bracing simultaneously with the backfilling of trenches and excavations.

(B) When directed, soundings shall be made at intervals of about ten (10') feet to determine the existence of rock between grade and rock subgrade.

(C) When boulders, masonry, concrete, loose fragments of rock, tree stumps or other material are removed by blasting, all blasting operations shall be conducted in strict accordance with the City ordinances and regulations relative to rock blasting and the storage and use of explosives.

(D) No blasting shall be done within five (5') feet of water mains, sewers or other structures.

(E) Excavation for the purpose of removing boulders, loose fragments of rock, tree stumps, roots and unsatisfactory material shall be backfilled with material complying with the specifications for Filling.

(F) Unless otherwise permitted, all earth excavation which is suitable and needed for fill shall be used within the contract limits.

RHCR 4.11.6 ROCK EXCAVATION METHODS.

When rock surfaces in streets, trenches or other excavations are uncovered, the Engineer shall be notified in order that the Contractor may make necessary measurements. Rock excavated before such measurements are made will not be paid for.

(A) Rock Excavation for Streets shall:

(1) be made to rock subgrade, when specified;

(2) be made and maintained to side planes specified until the entire work is accepted;

(3) be made in sections not less than fifty (50') feet in length, unless otherwise permitted.

(B) Rock Excavation for walls and other structures shall be made to the dimensions specified.

In rock trenches the Contractor may, with the written permission of the Engineer, omit the use of side forms. No rock shall project inside the minimum width vertical rock cut lines herein specified.

If the Contractor elects to carry the excavation in rock below the required subgrade of the trench, the Contractor shall backfill the trench to the required subgrade with either concrete or properly compacted stone ballast, as directed by the Engineer. No separate or additional payment shall be made for such backfilling where required, nor for any additional excavation and sheeting, the cost thereof shall be deemed included in the prices bid for all contract items of work.

In addition, the filling of voids left by the removal of ledge rock from within the limits of rock excavation payment limits shall be done in accordance with the requirements of this **Subsection 4.11.7**.

Any widening or enlargement of excavation permitted in writing by the Engineer upon the request of the Contractor in order to perform the work as specified in the Contract Documents and/or to expedite the Contractor's construction operations, will not be measured for any separate or additional payment, but the costs thereof shall be deemed included in the prices bid for all contract items of work.

(C) No blasting will be permitted unless otherwise specified. The Contractor shall use line drilling or other acceptable methods to excavate rock. But if blasting is permitted, blasting

operations shall be conducted in strict accordance with The City ordinances and regulations relative to rock blasting, the storage and use of explosives and prevention of silicosis. Any rock excavation within five (5') feet of a water main less than thirty-six (36") inches in diameter, and within ten (10')feet of a water main thirty-six (36") inches or more in diameter, shall be done with very light charges of explosives, or if directed, without blasting, and the utmost care shall be used to avoid breaking or disturbing the main. No blasting shall be done within five (5') feet of water mains, sewers or other structures except by written permission of the Engineer.

RHCR 4.11.7 BACKFILLING METHODS.

(A) BACKFILLING AROUND STRUCTURES

Unless otherwise specified or directed, all trenches and excavations shall be backfilled immediately after the structures are built and inspected, andpermission to backfill has been granted by the Engineer.

All backfill shall be carefully deposited and spread by approved methods.

Backfill shall proceed simultaneously with the withdrawal of sheeting. Withdrawal of sheeting below levels previously backfilled and compacted is prohibited.

The use of backhoe buckets for the compaction of backfill material in all trenches and excavations will not be permitted.

(1) Select Granular Fill

The Contractor shall use Select Granular Fill for backfilling trenches and excavations within any area less than two (2') feet wide in its least dimension (i.e. space between face of trench and outside face of cavities behind sheeting, filling of voids left by removal of boulders beyond the limits of sheeted trench, etc.) and within eighteen (18") inches around all underground facilities (i.e. conduit, cable, etc.).

Select granular fill shall be deposited and spread by approved methods in uniform horizontal layers not exceeding ten (10") inches in depth and each layer shall be thoroughly compacted to the satisfaction of the Engineer, before a successive layer is deposited. A minimum of 95 percent of Modified Proctor Maximum Density will be required after compaction.

The cost of providing Select Granular Fill as specified hereinabove, together with all labor, materials, plant, equipment, samples, and tests necessary and required for delivering, placing, compacting and testing of Select Granular Fill, shall be deemed included in the prices bid for all respective items of work. No separate or additional payment shall be made for this work unless otherwise specified.

(2) All excavated material from within the project limits which is considered as suitable material under the requirements of **Subsection 4.11.4.(B),** shall be utilized for backfill unless determined to be unsuitable as contaminated material by the Engineer.

The cost for all labor, materials, plant, equipment, samples, and tests necessary and required for the hauling, storing, placing, compacting and testing of suitable excavated fill material all in accordance with the Specifications and as directed by the Engineer, shall be deemed included in the prices bid for all respective items of work. No separate or additional payment shall be made for this work unless otherwise specified.

(B) BACKFILLING AROUND SHEETING

When sheeting is withdrawn all cavities remaining in or adjoining the trench shall be filled and compacted. When sheeting is left in place all cavities behind such sheeting shall be

filled as directed. All materials used for such backfill and the compaction of such materials shall be as specified herein.

(C) DEFICIENCY IN FILL MATERIAL

Unless otherwise shown on the plan, trenches shall be backfilled to the height of the surface of the ground as it existed at the commencement of the work. Should there be a deficiency of suitable material for that purpose, the Contractor shall furnish and place such additional material as may be required.

Payment for the cost of all labor, material, and equipment necessary and required to furnish and deliver these acceptable backfill materials, where a deficiency of acceptable backfill material occurs, shall be made as follows:

(1) For providing acceptable select granular fill (whether natural or processed) to satisfy the requirements of **Section RHCR 4.11.7(A)(1),** payment shall be deemed included in the prices bid for all contract items of work. No separate payment will be made for this work.

(2) For providing acceptable clean fill (whether natural or processed) to satisfy the requirements of **Section RHCR 4.11.7(A)(3)** to fill voids left by the removal of ledge rock, payment shall be made under the Contract Item - ROCK EXCAVATION.

(3) For providing acceptable clean fill (whether natural or processed) ordered by the Engineer, payment shall be made under the Contract Item - FILL.

(D) REMOVAL OF SURPLUS MATERIAL

As the trenches are backfilled, the Contractor shall remove all surplus material, and regrade and leave free, clear and in good order all roadways and sidewalks adjacent to the completed work and within fifty (50') feet of the end of the completed work. All surplus material or any part thereof shall be deposited, if required by the Engineer and at the Engineer's direction, on the streets and avenues within the limits of this Contract where they are below grade or contain depressions. Such fill shall be compacted to the required density (95% Modified Proctor Maximum Density) and in such a manner so as to leave the surfaces of the backfill even with the adjoining surfaces. The surplus material not reused on site, non-hazardous contaminated soils, and hazardous soil shall be disposed of in accordance with **Section RHCR 8.01.**

(E) TEMPORARY BULKHEADS

For retaining the backfilling only temporary bulkheads will be allowed over sewers, basin connections and drains. Such bulkheads shall not be of stone, and they shall be removed as the trenches are backfilled.

(F) SUBGRADE STRUCTURES NOT TO BE COVERED

Subgrade structures shall not be covered until the Engineer shall have inspected, measured and located the same and given permission to backfill the trenches over them.

(G) FILL

Fill shall be deposited, satisfactorily compacted, and maintained until the entire work is accepted, between:

(1) the subgrade of proposed pavement and the surface of proposed curbs and sidewalks and the existing ground surface;

(2) the planes of the slopes of the embankment or the backs of retaining walls, as specified;

(3) rock subgrade and the finished surfaces of roadways and sidewalks. Embankment slope shall be one and one-half (1-1/2) horizontal to one (1) vertical.

(H) The Contractor shall fill or backfill with material having a moisture content suitable for the proper compaction of that material. The Contractor shall be responsiblefor determining the proper limits as the work is progressed. Water added shall be thoroughly incorporated into the soil, and manipulation shall be provided whenever necessary to attain uniform moisture distribution to the soil. When the moisture content of a lift, that is about to be compacted, exceeds the required amount, compaction shall be deferred until the required moisture content is achieved or a more suitable material shall be used. Fill material shall be carefully deposited and spread by approved methods in uniform horizontal layers not exceeding ten (10”) inches in depth, extending across the entire width of fill prior to compaction, and each layer being thoroughly compacted to the satisfaction of the Engineer before a successive layer is deposited. A minimum of 95 percent of Modified Proctor Maximum Density will be required after compaction.

No separate or additional payment be made for any costs associated with the achievement of optimum moisture content, including any additional excavation due to the removal of any layer not meeting the specified requirements and for the replacement of any layers with suitable material. Costs shall be deemed included in the prices bid for all items of work.

When placing fill or backfill around underground facilities in shallow excavations, ten (10”) inch layers shall be deposited to progressively bury the facility to equal depths on both sides and for the full depth and width of the trench excavated for the facility.

(I) In deep trenches, in lieu of depositing and compacting the backfill from two (2’) feet above the underground facility to a plane five (5’) feet below final surface in accordance with the above specified procedure, the Contractor may submit to the Engineer, for approval, an alternate backfill method (i.e. puddling, jetting, deeper compaction layers, etc.). This submittal must fully describe the alternate method, including proposed equipment, backfill material, depth of compaction layer, and trench locations where it will be employed. However, approval of any alternate backfill method shall not relieve the Contractor from obtaining a minimum 95% Modified Proctor maximum density. Should the Engineer determine that the specified density is not being obtained, the area must be re-excavated and backfilled at the Contractor’s own cost until the required compaction density is achieved.

(J) Backfill immediately adjacent to conduits shall not contain particles larger than one- quarter (1/4”) inch in diameter. Compaction shall be attained by the use of impact rammers, plate or small drum vibrators, or pneumatic button head compaction equipment and shall be capable of exerting a pressure equivalent to two hundred and fifty (250) to three hundred (300) pounds per inch width of compression roll, or an equivalent pressure if other than smooth wheel or pneumatic tired rollers are permitted.

Hand tamping will not be permitted except in the immediate area of the underground facility.

The backfill, within two (2’) feet of such facilities, shall be wetted (except where clay is present) in ten (10”) inch lifts and lightly hand tamped with as many strokes as required to achieve maximum density.

(K) Where sheeting has been used for the excavation, it shall be pulled when the excavation has been filled or backfilled to the maximum unsupported depth allowed by New York State Department of Labor Industrial Code Rule 23 and Title 29 Code of Federal Regulations Part 1926, Safety and Health Regulations for Construction. Where a difference exists between regulations, the more stringent requirements shall apply.

(L) In-place soil density tests will be required to ensure that the soil compaction requirements of the specifications are met. In-place soil density tests shall be taken for each and every layer of backfill placed, at a maximum of one hundred (100') feet intervals along the length of each layer. However, the location of the tests shall vary horizontally along each successive layer, such that no two (2) tests are conducted at the same station location as any previous layers. The number and locations of in-place soil density tests shall be as directed by the Engineer.

For each one thousand (1,000) cubic yards of each type of backfill soil utilized, for which in-place soil density tests are to be performed, shall undergo a minimum of one (1) Modified Proctor analysis in order to determine the maximum dry density and optimum moisture content of the soil material to be tested. Due to varying soil conditions, additional Proctor analyses may be required by the Engineer. The number and locations of all samples to undergo Proctor analysis shall be as directed by the Engineer.

The Contractor shall retain the services of a testing laboratory, in accordance with Section 7.12 - Soil Density Testing, to make all compaction tests of backfill materials used and placed. All compaction tests shall be witnessed and verified by the Engineer. Proctor analyses and in-place soil density tests shall be performed in accordance with Section 7.12.

Unless otherwise provided for in the Contract no separate or additional payment shall be made for the depositing, compacting and sampling of backfill nor for the services of the approved testing laboratory, the costs thereof, shall be deemed included in the prices bid for all items of work.

The Contractor shall furnish the Engineer with copies of in-process compaction reports certified by a Professional Engineer as to the compliance with the requirements of the aforementioned filling and backfilling specifications. This certified compaction report shall be submitted as directed by the Department's Quality Assurance.

The cost for all labor, materials, and equipment necessary and required to place, compact, sample and test provided acceptable backfill material shall be deemed included in the prices bid for all contract items of work. No separate or additional payment will be made for this work.

(M) LIGHTWEIGHT FILL

Lightweight fill shall be placed in uniform layers of 10 in., unless Contractor proves by testing that thickness can be increased, but in no case shall lift thicknesses be greater than 12 in. In confined areas vibratory plate compaction equipment shall be used (5 hp to 20 hp) with a minimum of two passes in 6 in. lifts for a 5 hp plate and 10 in. lifts for a 20 hp plate.

The Contractor shall take all necessary precautions when working adjacent to the lightweight fill to ensure that the material is not over compacted. Construction equipment, other than for placement and compaction, shall not operate on the exposed lightweight fill.

(N) MONITORING

Contractor shall install settlement monitoring monuments at finished subgrade level at a frequency of two monuments per 100 ft of length along East River Park. One monument shall be installed adjacent to the cut-off wall along the esplanade and one monument shall be installed 50 ft inland at locations approved by the Engineer. Settlement monitoring shall be conducted weekly for a period of three months after completion of filling work, or until negligible settlement is detected, as determined by the Engineer. A weekly report shall be submitted to the Engineer for review and approval.

RHCR 4.11.7 MEASUREMENT.

(A) EARTH EXCAVATION FOR STRUCTURES, EXCAVATION OF RIP RAP AND MISCELLANEOUS FILL, AND EXCAVATION OF FILL ON AND BEHIND THE

ESPLANADE

Excavation within the limits of the work except for structures for which the contract prices include the cost of earth excavation, will be measured and allowed to the following limits:

Condition	Payment Limits
For streets	Above the depth specified and between side limits specified.
For uncovering rock between grade and rock subgrade……	Below grade and above the rock surface.
For the removal of boulders, loose fragments of rock, tree stumps, roots and unsatisfactory material.	Below the depth specified and between side limits as directed.
For dry retaining walls….	To depth specified and to vertical planes passing through the neat lines of the footings of the walls.
For masonry walls (except dry rubble), culverts and drains (except pipe drains)……..	To depths specified and to vertical planes passing one (1') feet outside of the neat line of the structure.

(B) ROCK EXCAVATION IN STREETS, TRENCHES AND STRUCTURES

When rock surfaces in streets or trenches are uncovered, the Engineer shall be notified in order that the Engineer may make necessary measurements. Rock excavated or blasted before such measurements are made will not be paid for.

The qualities of rock to be measured for payment under each Rock Excavation item shall be the volume of ledge rock actually removed from within the following payment limits:

Condition	Payment Limits
For streets	Above rock subgrade and between side limits specified.
For walls, culverts and other lines specified	Below rock subgrade to depths and to the payment structures

(C) ADDITIONAL INCREMENTAL COST TO EXCAVATE ROCK AT DEPTHS GREATER THAN FIVE (5') FEET IN TRENCHES AND FOR STRUCTURES

For rock excavation within trenches and for structures, where the depth of rock excavation exceeds 5 feet below grade, that quantity of rock removed below five (5') feet of grade will be measured, under Item ESCR-4.11 BAA, for an additional incremental payment over and above that made for rock excavation under Item 4.11 AA.

(D) FILL, PLACE MEASUREMENT

All filling required to complete the work, between the ground surface as determined by the Engineer before the work of filling is commenced and the surfaces specified, and between rock subgrade and the surfaces specified, will be measured in place after compaction.

No payment or allowance will be made for:

(1) sinkage, shrinkage, and settlement;

(2) backfilling holes below grade caused by the removal of boulders, loose fragments of rock, tree stumps, roots and other unsatisfactory material;

(3) backfilling to original ground surface for culverts, drains, basin connections, and between structures and sides of excavations;

(4) fill which may be spread out beyond the embankment slopes specified;

(5) spaces occupied by subsurface structures over one (1) cubic foot in volume when the placement or construction of such structures is made on newly placed fill and is started while fill operations are in progress.

The spaces occupied by curbs, crosswalks, flagging, concrete sidewalks, gutters, culverts, drains, basin connections, manholes, receiving basins, seepage basins, inlets, and gas or water pipes or any appurtenances thereof, will not be deducted from the volume of filling to be paid for when the aforesaid structures are placed or constructed after filling operations have been completed and excavation of the newly placed fill is required for such placement or construction.

(E) FILL, VEHICLE MEASUREMENT

All fill required to complete the work of filling on unstable ground by vehicle measurement, between the limits specified, will be measured in cars, trucks, etc., at the place of deposit. In computing the amount of fill to be paid for, one (1) cubic yard of measured material in the vehicle will be paid for as eight-tenths (0.8) of a cubic yard of fill. For carload and truckload deliveries, only water level loads will be accepted and no allowance will be made for any crown or peak of the load.

(F) SELECT GRANULAR FILL, PLACE MEASUREMENT

The quantity of select granular fill to be measured for payment shall be the number of cubic yards of select granular fill used outside the limits of trench excavation, as ordered in writing by the Engineer, measured in place after compaction.

No payment or allowance will be made for fill placed beyond the limits specified.

(G) SELECT GRANULAR FILL, VEHICLE MEASUREMENT

All select granular fill required to complete the work of filling on unstable ground by vehicle measurement, between the limits specified, will be measured in cars, trucks, etc., at the place of deposit. In computing the amount of select granular fill to be paid for, one (1) cubic yard of measured material in the vehicle will be paid for as eight-tenths (0.8) of a cubic yard of fill. For carload and truckload deliveries, only water level loads will be accepted and no allowance will be made for any crown or peak of the load.

No payment or allowance will be made for fill placed beyond the limits specified.

(H) LIGHTWEIGHT FILL, PLACE MEASUREMENT

The quantity of lightweight fill to be measured for payment shall be the number of cubic yards of lightweight fill used outside the limits of trench excavation, as ordered in writing by the Engineer, measured in place after compaction by the cubic yard.

No payment or allowance will be made for fill placed beyond the limits specified.

(I) CRUSHED STONE FILL FOR L-WALL DRAINAGE, PLACE MEASUREMENT

The quantity of crushed stone for L-Wall drainage to be measured for payment shall be the number of cubic yards of crushed stone fill along the concrete L-wall at the esplanade, as ordered in writing by the Engineer, measured in place after compaction.

No payment or allowance will be made for crushed stone placed beyond the limits

specified.

(J) SETTLEMENT MONITORING

The settlement monitoring shall be measured on a lump sum basis for the 3 month monitoring period. Start of the monitoring period shall be coordinated with and as approved by the Engineer.

RHCR 4.11.8 PRICE TO COVER.

(A) EARTH EXCAVATION FOR STRUCTURES

The contract price per cubic yard for earth excavation for structures shall cover the cost of all labor, materials, equipment, and insurance required to complete the work of earth excavation within the contract limits, in full compliance with the requirements of the specifications, without regard to the subsequent use of the excavated materials.

(B) ROCK EXCAVATION IN STREETS, TRENCHES AND STRUCTURES

The contract price bid per cubic yard for rock excavation shall cover the cost of all labor, materials, equipment, and insurance required to complete the work of rock excavation within the contract limits, in full compliance with the requirements of the specifications without regard to the subsequent use of the excavated material.

In addition, included in the unit prices bid hereunder for rock excavation shall be the cost of all labor, material, plant, and equipment required to furnish and deliver acceptable select granular fill material required to fill the voids left by the removal of ledge rock.

(C) ADDITIONAL INCREMENTAL COST TO EXCAVATE ROCK AT DEPTHS GREATER THAN FIVE (5') FEET IN TRENCHES AND FOR STRUCTURES

The contract price bid per cubic yard for the additional incremental cost to excavate rock at depths greater than five (5') feet in trenches and for structures, shall cover the cost of all additional labor, materials, equipment required to complete the work of rock removal at depths exceeding five (5') feet below grade. Payment under this item will be made in addition to that made under Item ESCR-4.11 AA.

(D) EXCAVATION OF RIP RAP AND MISCELLANEOUS FILL, EXCAVATION OF FILL ON AND BEHIND THE ESPLANADE

The contract price bid per cubic yard of Rip Rap and Miscellaneous Fill and for Excavation of Fill on and Behind the Esplanade shall cover the cost of all additional labor, materials, equipment required to complete the removal of the material to the grades shown on the Contract Drawings.

(E) FILL

The contract price per cubic yard for Fill, Place Measurement or Vehicle Measurement, shall cover the cost of all labor, materials, and equipment required to complete the work of filling within the contract limits in full compliance with the requirements of the specifications. All material excavated within the limits of the work which is used as filling will be paid for as filling.

When there is no price for Fill, the cost of furnishing and depositing any Fill required shall be covered by and included in the contract prices bid for all respective items of work.

(F) SELECT GRANULAR FILL

The contract price per cubic yard for Select Granular Fill, Place Measurement or Vehicle Measurement, shall cover the cost of all labor, materials, plant, equipment, insurance, and samples required to furnish and deliver the clean select granular fill material and to do all work incidental thereto, all in accordance with the Contract Drawings and Specifications and as directed by the Engineer.

(G) LIGHTWEIGHT FILL

The contract price per cubic yard for Lightweight Fill, Place Measurement, shall cover the cost of all labor, materials, plant, equipment, insurance, and samples required to furnish and deliver the clean lightweight fill material and to do all work incidental thereto, all in accordance with the Contract Drawings and Specifications and as directed by the Engineer.

(H) CRUSHED STONE FILL FOR L-WALL DRAINAGE

The contract price per cubic yard for Crushed Stone Fill for L-Wall Drainage shall cover the cost of all labor, materials, plant, equipment, insurance, and samples required to furnish and deliver the clean select granular fill material, including the PVC weep holes with screen, as shown on the drawings, and to do all work incidental thereto, all in accordance with the Contract Drawings and Specifications and as directed by the Engineer.

(I) SETTLEMENT MONITORING

The contract price for the settlement monitoring shall be lump sum and cover the cost of all labor, materials, plant, equipment, insurance, and reporting required to successfully complete the monitoring over the specified period. *Payment will be made under:*

Item No.	Item	Pay Unit
ESCR-4.11 AA	ROCK EXCAVATION IN STREETS, TRENCHES AND	C.Y.
ESCR-4.11 AS	EARTH EXCAVATION FOR STRUCTURES	C.Y.
ESCR-4.11 BAA	ADDITIONAL INCREMENTAL COST TO EXCAVATE ROCK AT DEPTHS GREATER THAN FIVE (5) FEET IN TRENCHES AND FOR STRUCTURES	C.Y.
ESCR-4.11 CA	FILL, PLACE MEASUREMENT	C.Y.
ESCR-4.11 CB	FILL, VEHICLE MEASUREMENT	C.Y.
ESCR-4.11 CC	SELECT GRANULAR FILL, PLACE MEASUREMENT	C.Y.
ESCR-4.11 CD	SELECT GRANULAR FILL, VEHICLE MEASUREMENT	C.Y.
ESCR-4.11 LW	LIGHTWEIGHT FILL, PLACE MEASUREMENT	C.Y.
ESCR-4.11 RR	EXCAVATION OF RIP RAP AND MISCELLANEOUS FILL	C.Y.
ESCR-4.11 RM	EXCAVATION OF FILL ON AND BEHIND THE ESPLANADE	C.Y.
ESCR-4.11	CRUSHED STONE FILL FOR L-WALL DRAINAGE, PLACE MEASUREMENT	C.Y.
ESCR-4.11 M	MONITORING OF SETTLEMENT AT FINISHED SUBGRADE FOR 3 MONTHS	L.S.

END OF SECTION

SECTION RHCR-6.01 — CLEARING AND GRUBBING

RHCR-6.01.01 INTENT

This section describes Clearing and Grubbing.

RHCR-6.01.02 DESCRIPTION

Unless noted otherwise by separate specifications, Clearing and Grubbing shall include the removal and legal disposal of the following site elements as shown on the Contract Drawings, from within areas shown on the Contract Drawings and where directed by the Engineer:

- Asphalt, concrete, pre-cast concrete, cobbles and stone pavements (excluding pavement base courses to remain)
- Curbs and walls
- Concrete foundations for benches, light poles, and other site furnishings
- Fences including fence curbing and foundations
- Debris including, tires, batteries, automobile parts, kitchen appliances, rubbish, stumps, roots and root systems, miscellaneous minor structures, and all other objectionable materials as noted on the Contract Drawings and where directed by the Engineer.

The Contractor must comply with all Federal, State, and City laws pursuant to the handling and disposal of woody organic material that is host material for the Asian Longhorned Beetle. All wood that is host material for the Asian Longhorned Beetle must be chipped, ground, or shredded inside the quarantine zone to a size of less than one (1'') inch in at least two dimensions before it is permitted to leave the quarantine zone. Please refer to the publication entitled Part 139 of the New York State Department of Agriculture and Markets law and contact State personnel for further details. Also see Section 1.06.23.(R), PLANT PEST CONTROL REQUIREMENTS, of the NYCDOT Standard Highway Specifications for additional requirements.

RHCR-6.01.03 DISPOSAL OF SALVAGEABLE MATERIAL

Salvageable fence, including all appurtenances, or other salvageable materials shall be carefully dismantled, removed, cleaned and stored on the site for re-use in the Work; delivered, after cleaning, to a designated City-owned Yard, within the five boroughs, or disposed of away from the site of the Work, whichever the Engineer shall direct.

RHCR-6.01.04 DISPOSAL OF NON-SALVAGEABLE MATERIAL

Non-salvageable materials shall be legally disposed of away from the site of the Work. The disposal of materials resulting from Clearing and Grubbing operations by burning in open fires will not be permitted.

RHCR-6.01.05 METHODS

Coordinate with the Engineer prior to the start of Work to mark-out and confirm utilities to be demolished and utilities to remain and be protected within the project area. Confirm that utilities to be removed have been decommissioned and de-powered prior to the start of removal work.

Coordinate existing utility removals with the installation of temporary utilities required at existing facilities to remain. Obtain Engineer approval prior to the disconnection and removal of utility services to facilities to remain.

Carefully cut and protect existing utility service connections to remain including buried conduits and piping at existing facilities to allow for future reconnections. Maintain existing utility service connections extending five (5') feet beyond the foundations of existing facilities to remain.

In areas where pavements are removed, aggregate subbase materials need not be removed except as the Engineer shall deem necessary. On-site processing of pavement materials for re-use is permissible as approved by the Engineer.

When removing pile supported foundations, remove concrete pile caps in their entirety and cut and remove piles three (3') feet below the bottom of pile foundations unless otherwise indicated on the Drawings or as directed by the Engineer. On-site processing of concrete pile cap structures is permissible as approved by the Engineer.

In areas where curbs, walls, piles and pile caps, drainage, electrical, water or gas utility elements are removed, the Contractor shall backfill and compact holes trenches and other excavations to the level of the existing grade with clean fill or existing on-site fill materials from on-site as permitted by the Engineer.

(A) PRUNING

Branches of trees overhanging roadways, or other branches designated by the Engineer, shall be pruned to provide a clearance of fourteen (14') feet above the proposed final surface. Wound treatment shall not be used to cover wounds or pruning cuts, except when necessary for disease, insect, mistletoe, or sprout control, or for cosmetic reasons. Wound treatments that are damaging to tree tissue shall not be used. All trees within the City Right of Way (canopy, roots, and/or trunk) require a pruning permit from the Department of Parks and Recreation and must be performed according to ANSI A300 Standards.

(B) ENGINEER'S APPROVAL

The Engineer, in consultation with NYCDPR, must approve all methods for felling, cutting or pruning trees for all trees which are under NYCDPR's jurisdiction.

(C) PROTECTION

Clearing and Grubbing operations shall be progressed in a manner and with equipment which will not damage trees, structures and adjoining grounds or vegetation which are to remain nor create any pedestrian or vehicular traffic hazards. In addition, all clearing and grubbing operations under the drip line of existing trees shall be performed by hand methods only. Tree protection fences shall not be moved or removed without the written permission of the Engineer.

(D) FENCING

Approved protective fencing or barricades shall be furnished and erected around or adjacent to individual trees, groups of trees and structures which are to remain, and at other required locations, when and as directed by the Engineer.

(E) CLEAN UP

All materials resulting from Clearing and Grubbing operations shall be disposed of, as specified, and the site shall be left in a condition satisfactory to the Engineer.

(F) REMOVAL OF FENCING

Protective fencing and barricades installed by the Contractor shall be removed and disposed of away from the site when directed by the Engineer.

RHCR-6.01.06 MEASUREMENT

Payment for Clearing and Grubbing will be made at the unit price bid per square yard for work satisfactorily completed.

RHCR-6.01.07 PRICES TO COVER

The Contract prices for Clearing and Grubbing shall include the cost of all labor, materials, equipment, insurance, and incidentals required to complete the Work, together with all other work in connection therewith and incidental thereto, in full compliance with the Contract Drawings, the specifications and the directions of the Engineer. When there is no scheduled item provided therefor, the cost of the work required for Clearing and Grubbing shall be deemed included in the prices bid for all the scheduled Contract items. The removal of trees and stumps over six (6") inches shall be paid for under separate items. The removal

of existing facilities and facility foundations shall be paid for under separate items. Temporary power to existing facilities to remain shall be paid for under separate items.

Unless otherwise provided for under other scheduled Contract bid items, no separate payment will be made for tree pruning required herein to provide a clearance of fourteen (14') feet above the proposed final surface.

Payment will be made under:

Item	No. Item	Pay Unit
RHCR-6.01 CR	CLEARING AND GRUBBING	S.Y.

END OF SECTION

SECTION 6.40 CR — ENGINEER'S FIELD OFFICE

6.40.01 CR DESCRIPTION

The Contractor shall provide, furnish and maintain a fully equipped field office for the exclusive use of and occupancy by the Department's engineering personnel and/or Supervising Consultant (herein after called "City personnel"), and by the engineering personnel of private utilities when specified. The field office shall be at a location approved by the Engineer and shall be a commercial building, store front, or with the approval of both Office of Construction Mitigation and Coordination (OCMC) and the Community Board it may be a mobile trailer(s). If a trailer is used it shall be subject to approval by the Engineer, and all necessary permits shall be obtained by the Contractor. The Contractor may have facilities in an adjoining area separated by a lockable door, provided such facilities are in a location approved by the Engineer. The field office shall be within 1/2 mile of the job site at a location approved by the Engineer. Field offices located more than 1/2 mile from the job site shall require approval by the Engineer.

The field office structure and occupancy thereof shall conform to the requirements of all laws, rules, regulations and orders applicable to it.

The field office and all equipment, except as otherwise specified, may be new materials or may be used materials in good condition and satisfactory to the Engineer.

6.40.02 CR MATERIALS

(A) GENERAL CONSTRUCTION

Responsibility for the design of architectural concrete textured finishes to be in conformance with requirements of the contract documents, and as approved by the Engineer. All work shall be performed using the highest standards of quality for visual and durable concrete and shall rest with the contractor.

The Engineer's Field Office shall be in an approved and weatherproof building. It shall have a minimum ceiling height of seven (7') feet and be partitioned to provide the number of rooms required for the type of office specified. Floor space shall be subdivided into work areas based on a floor plan provided by the City to the Contractor upon notification of space availability.

(B) GENERAL FACILITIES

1) The field office shall contain or have the following facilities incorporated:

2) Lighting — Electric light, non-glare type luminaries to provide a minimum illumination level of 100 ft.- candles at desk height level.

3) Heating and Cooling — Adequate equipment to maintain an ambient air temperature of 70° F. +5°.

4) Electrical Energy Outlets — In accordance with all applicable codes and placed as necessary.

5) Toilet — A separate enclosed room, properly ventilated per code and complying with applicable sanitary codes shall contain a lavatory with running hot and cold water, flush-type toilet, mirror, electric hand dryer, and paper towel dispenser.

6) Showers — Shower facilities, with attached dressing rooms, shall be provided adjacent to the restrooms. The shower rooms shall have a ventilation and heating systems, separate locked doors, and privacy curtains.

7) Potable Water — Potable water supplied from an existing system or five (5) gallon capacity water cooler of a type to be approved by the Engineer shall be provided for use by City personnel. Replacement bottles of water shall be provided by the Contractor, when required.

8) Signs — Store front locations shall have a window graphic sign in black and white lettering with the following inscription. Other locations shall have a wood or metal sign affixed on the outside wall of the building with the following inscription painted in black block lettering on a white background. Paints shall be approved exterior enamels.

CITY OF NEW YORK	2-1/2"
DEPARTMENT OF DESIGN AND CONSTRUCTION	3-1/2"
INFRASTRUCTURE	2-1/2"
RESIDENT ENGINEER'S FIELD OFFICE	2-1/2"

9) Electric Refrigerator — five (5) cubic feet minimum capacity for use by City personnel.

10) Microwave, Toaster Oven and Coffee Maker — Basic reheating kitchen equipment or approved appliances for use by City personnel.

11) Windows and Doors — All windows and doors shall be weatherproof, and each equipped with adequate locking devices. Each window shall be equipped with vertical blinds. Exterior doors shall be provided with two (2) separate "high security" dead bolt type cylinder locks, keyed alike, and three (3) keys shall be furnished for each lock. All windows and doors shall be alarmed with an audible alarm system with signals sent to a 24-hour security response service.

12) Partitions — Partitions for workspace enclosures shall be either permanent walls or of the modular type similar to Herman Miller's standard fabric covered line.

13) Kitchen Sink — Mechanism to provide non-drinking, hot and cold, running water.

(C) OFFICE EQUIPMENT

1) Pencil Sharpener — One standard pencil sharpener for use by City personnel.

2) Telephone Answering Machine — The telephone answering machine to be provided shall be an electronic digital voice machine with emergency call forwarding capability. It shall be operable twenty-four (24) hours per day and, when unattended, shall transmit to the caller the dotting message:

"You have reached the Field Office of the New York City Dept. of Design and Construction. No one is here now. We check our incoming messages frequently. We will get back to you as soon as possible. Please leave your name, message and phone number where you may be reached. In case of emergency, call the New York City Hotline at 311. Again, the emergency number is 311."

All electronic voicemail messages shall be automatically forwarded as email attachments, to allow for the voicemails to be played remotely.

(D) COMPUTER EQUIPMENT

Computers furnished by the Contractor for use by City Personnel, for the duration of the Contract, shall be in accordance with Table 1 - ADDITIONAL SPECIFIC REQUIREMENTS, contained herein, and shall meet the following minimum requirements:

3) Personal Computer(s) — Workstation Configuration

a. Make and Model: Dell; HP; Gateway; Acer; or, an approved equivalent. (Note: an approved equivalent requires written approval of the City.)
b. Processor: i5 (4MB Cache, 3.0GHz) or faster computer - Dual Processor.
c. System Ram: Minimum of 16GB (Gigabytes) Dual Channel DDR3 SDRAM at 1333MHz — 2 DIMMSs
d. Hard Disk Drive(s): 500 GB (Gigabytes) Serial ATA (7200RPM) w/DataBurst Cache, or larger.
e. CD-RW: Internal CD-RW, 48x Speed or faster.
f. 16X DVD+/-RW: DVD Burner (with double layer write capability) 16x Speed or faster
g. I/O Ports: Must have at least one (1) Serial Port, one (1) Parallel Port and three (3) USB Ports.
h. Video Display Card: HD Graphics (VGA, HDMI) with a minimum of 64 MB of RAM.
i. Monitor: 22" W, 23.0 Inch VIS, Widescreen, VGA/DVI LCD Monitor.
j. Available Exp. Slots: System as configured above shall have at least two (2) full size PCI Slots available.
k. Network Interface: Integrated 10/100/1000 Ethernet card.
l. Other Peripherals: Optical scroll Mouse, 101 Key Keyboard, Mouse Pad and all necessary cables.
m. Software Requirements: Microsoft Windows 10 Professional SP1, 32 bit or 64 bit; Microsoft Office Professional 365; Microsoft Project 365; Bluebeam Revu Basic, Anti-Virus so are package with 4 year updates subscription; and, either Auto Cad LT or Microsoft Visio Standard Edition, as directed by the Engineer.

4) In field offices requiring computers shall be provided with the following:

a. One (1) broad-band internet service account. Wideband Internet connectivity at a minimum throughput of 15 Mbps download and 50 Mbps upload is required. Telephone service should be bundled together with Internet connectivity. Because of throughput requirements Verizon FIOS is the preferred connectivity provider where available.

b. This account will be active for the life of the project. The e-mail name for the account shall be the DDC Field Office/project ID (preferably Gmail or Outlook - e.g., SANDTWOBR@gmail.com or similar).

c. All necessary Cabling.

d. Storage Boxes for and Blank CDs/DVDs.
e. UPS/Surge Suppressor combo.
f. 30 USB Thumb (or flash) Drives – 16 GB each

5) All computers required for use in the Engineer's Field Office shall be delivered, installed, and setup in the Field Office by the Contractor.

6) All Computer Hardware shall come with a three (3) year warranty for on- site repair or replacement. Additionally, and notwithstanding any terms of the warranty to the contrary, the Contractor is responsible for rectifying all computer problems or equipment failures within one (1) business day.

7) An adequate supply of blank CDs/DVDs, and paper and toner cartridges for the printer shall be provided by the Contractor and shall be replenished by the Contractor as required by the Engineer.

8) It is the Contractor's responsibility to ensure that electrical service and phone connections are also available at all times; that is, the Field Office Computer(s) is to be powered and turned on twenty-four (24) hours each day.

9) Broadband connectivity is preferred at each field office location. Please take into consideration that an extra phone line dedicated to the modem must be ordered as part of the Contract unless Internet broadband connectivity, via Cable or DSL, is available at the planned field office location. Any questions regarding this policy should be directed to the Assistant Commissioner of Information Technology Services at 718-391-1761.

(E) DATA ACCESS

Electronic access to the Equipment Watch Retail Rental Rates database (formerly known as The AED Green Book published by Equipment Watch, shall be provided.

1) Field Testing Equipment

a. 2 — Air Entrainment Meters — Pressure Type, with carrying case for use by City personnel. Each meter shall be capable of producing an accurate test result in approximately five (5) minutes and shall comply with ASTM Designation C 231.

b. 2 — Slump Test Sets — Slump cone and test sets conforming to the requirements of ASTM Designation C 143, complete with rod and scoop for use by City personnel.

c. Thermometers: For use by City personnel.

d. 1 — Minimum-maximum thermometer.

- 3 — Asphalt thermometers of stainless steel construction with an accuracy of 0.5% of the full scale, able to measure temperatures from 50 to 500 degrees F. in 5 degree increments.
- 3 — Surface Thermometers able to measure temperatures of flat surfaces similar to Sargent- Welsh Model S81441-D, or an approved equivalent.
- Nonsparking Pinch Bar — For use in opening manholes.

e. Gas Meters - For use in detecting the presence of explosive gases and vapors for use by City personnel.

f. Straight Edge — One 10 foot long straight edge for use by City personnel in detecting pavement surface tolerance.

g. 48" Smart Level — For use in determining pedestrian ramp and sidewalk slopes.

h. Chlorine Test Kits — For testing residual chlorine levels following water main flushing.

i. Green Florescent Power Trace Dye — For testing sewer connections.

j. 10 — One Million Candlepower Rechargeable Flashlights.

k. Distance Measuring Wheel — For measuring long distances.

6.40.03 CR SPECIFIC REQUIREMENTS FOR ENGINEER'S FIELD OFFICE

In addition to the general requirements, the Field Office shall have a minimum floor area of 3,000 SF, calculated based on usable area only, excluding any loss factors. Loss factors are defined as those areas such as lobby, sidewalk, window ledge, elevator shafts, and stairways. The Contractor shall provide and maintain furnishings for each type of Field Office in the quantity specified in Table 1. The furnishings shall be new or used equipment satisfactory to the Engineer.
The office shall have a minimum of two outside doors and four windows.

The Field Office shall be partitioned to provide five (5) rooms, one of which shall be at least 150 s.f. in area (for use by private utilities).

TABLE 1
ADDITIONAL SPECIFIC REQUIREMENTS

SPECIFIC REQUIREMENTS	**TYPE CR**
Minimum useable floor space {Square Feet)	2,500
Office desks, at least 4'-8" x 2'-8", with drawers, locks, and keys.	12*
Swivel chairs, with arms, for the above.	12*
Office folding chairs, metal, with padded seats and backs.	16**
Steel supply cabinets (approximate size 72" high by 36" wide by 18" deep), with four adjustable shelves, tumbler lock and 3 keys.	2
Fire resistant cabinet, 4-drawer, legal size with lock and three (3) keys, meeting the requirements for "Filing devices, Insulated (36 E 9)" Class D Label, of the Underwriters' Laboratories, Inc. Specifications.	6***
Individual lockers (17" wide x 18" deep x 72" high) with flat key locks and two (2) keys each.	4
Calculating machines, tape type with digital display registering at least ten (10) digits.	3*
Standalone networked *color* laser printer carriage, standard 16	1
Wastepaper baskets (metal, approximately 12" square by 16" high).	8
Fire extinguishers, non-toxic, dry chemical type meeting Underwriters Laboratories, Inc., approval for Class A, Class B and Class C fires with a minimum rating of 2A:lOB:10C.	5****
First Aid Kit kept properly stocked with appropriate first aid supplies at all times.	2
Drafting tables (3'-0" x 5'-0") with storage drawers and stool.	5****
Photocopying Machine — Stand-alone, heavy duty, electric, dry-process color photocopying type with color scan and send capability via e-mail, a minimum production rate of 70 pages per minute and an adequate supply of copy paper, toner, etc. The machine shaft be capable of duplex copying paper sizes of 8-1/2 x 11 inches, 8-1/2 x 14 inches and 11 x 17 inches, and have separate trays for each paper size. It shall have a document feeder, collator, stapler, and the capability to reduce/enlarge copies between each paper size. The supply of each size copy paper, toner, etc. shaft be replenished, and the machines shall be maintained for the duration of the Contract by the Contractor as required by the Engineer. Make and model can be Minolta, Canon, IBM, Epson, or an approved equivalent, and shaft be networked to the office computers for printing capability.	1
Standalone networked color laser printer. (Not required if photocopying machine prints (in color)	1
Vertical filing plan racks for six sets of 22"x36" plans each rack.	5****
Telephone lines for calls with no territorial limitation including international calling, where one shall be dedicated for the Fax Machine, one for each computer fax/modem and the others for telephone instruments.	5
Telephone instruments.	5
Telephone answering machine.	1

SPECIFIC REQUIREMENTS	TYPE CR
Fax Machine —With an adequate supply of copy paper, toner, etc. The supply of copy paper, toner, etc. shall be replenished and the machines shall be maintained for the duration of the Contract by the Contractor as required by the Engineer.	1
Personal Computer — Workstation Configuration	5
Bottled water with refrigerator unit-hot/cold water. (For private utilities room.)	1
Heavy duty commercial grade diamond cut shredder with automatic start. The shredder shall be able to receive 8-1/2 inch wide paper and shred a minimum of 15 sheets simultaneously along with CDs and staples.	1
Projector — 1080p LCD with a min. of 2200 ANSI Lumens, 1920 x 1080, 16:9, 40,000:1 contrast ratio, HDMI, VGA, USB, and a 10' diagonal, 16:9 Projection Screen.	1
Conference Room, 320 square foot (20'x16' minimum, equipped with (2) 3'x6.5' tables and (30) chairs.	1

‡ *Provide one (1) telephone line and two (2) telephone instruments for file exclusive use by private utilities personnel. The line shall interconnect the two telephone instruments by push button control.*

**Provide four (4) each of Office Desks, Swivel Chairs and Waste Paper Baskets in private utilities room.*

***Provide eight (8) Folding chairs in private utilities room.*

****Provide two (2) Fire Resistant 4-Qraw'er Legal Size Cabinets in private utilities room.*

*****Provide one (1) each of Fire Extinguisher, Drafting Table and Vertical File Rack in private utilities room.*

(A) CONSTRUCTION METHODS

The building shall be fully equipped and made available for use and occupancy by the Department's personnel and/or Supervision Consultant not less than thirty (30) days prior to the start of any Contract Work.

The building interior (including access foyers, stairwells, etc.) shall be maintained in good, clean, and sanitary working condition by the Contractor for the duration of the Contract. The Contractor shall provide and pay all costs for electrical service, telephone service for calls within New York City limits, hot and cold water, heat and fuel, and daily janitor service. Staples, such as paper towels, hand soap, toilet paper, and similar supplies, shall always be available.

Where necessary, the site for a mobile trailer(s) shall be graded and shoulder stone placed and maintained as directed by the Engineer to provide a parking area for City personnel and, if necessary, an approach road shall be provided. Plumbing work shall include all water supply, drainage and piping required for the operation of a complete installation. Temporary water service shall be provided from an existing main and extended into the trailer and all fixtures requiring water supply shall be properly connected up. All necessary soil, waste, vent and drainage piping shall be provided and connected to the existing sewer or as otherwise directed.

The office, incorporated facilities, equipment, and personal property of the Department's employees shall be protected by the Contractor against loss or damage from fire, theft, or other causes, at all hours of the day and night. The Contractor shall provide fire insurance, extended coverage and vandalism, malicious mischief and burglary, and theft insurance coverage in the amount of forty thousand dollars ($40,000.00) for office equipment of the City of New York in the Engineer's field office and for property of City personnel that is used in the Contract Work and stored in the office. All insurance coverage shall be written by a company approved by the City and payable in case of loss to the City of New York. The office shall be maintained by the Contractor in first class condition until final acceptance of the Work.

At the direction of the Engineer, any equipment on the above lists may be deleted. The Engineer may direct that other equipment of equivalent value be supplied by the Contractor or an appropriate credit be taken for the value of equipment not provided.

When directed by the Engineer, the Contractor shall disconnect all services and remove and dispose of all temporary installations from the site, including fencing, surfacing and utilities, the area shall then be cleaned, foamed and seeded if required and left in a neat and acceptable condition. On and after the date of the Engineer's Final Acceptance, the temporary structure and all installed equipment shall become the property of the Contractor, and shall be disposed of, by the Contractor, away from the site of the Work. Engineer's Final Acceptance shall be when the Contractor has completed all punchlist work and Official Completion Date has been set.

6.40.04 CR NON-CONFORMANCE

No payment will be made under Engineer's Field Office for each calendar day during which there are deficiencies in compliance with the requirements of any subsection of this specification. The first calendar day shall commence twenty-four (24) hours after notice to the Contractor of such a deficiency. This non-payment shall be deducted from the Contractor's next estimate as a charge.to the Contractor on the item. The amount of such calendar day non-payment will be determined by dividing the unit price bid per month by 30.

In addition, the Contractor may be subject to liquidated damages in accordance with Schedule A.

6.40.05 CR MEASUREMENT

The quantity to be measured for payment under this item shall be the number of months that the Field Office is available for occupancy by the Field Engineers during the period of the Contract. Payment will begin the first month that the office is fully equipped and accepted, serviced as specified, and made available for occupancy. The Field Office is to be continuously made available and Monthly payments will continue for the duration of the Contract through a period not to exceed 6 months past the Substantial Completion Date. When directed in writing by the City, the Field Office will be provided and paid for a period of time beyond 6 months past the Substantial Completion Date. Payment for each month's occupancy after the date of substantial completion acceptance will be made as part of the final estimate. Monthly payments may be terminated on a specified date prior to acceptance of the Contract by written notification by the Engineer that such office will no longer be required on the Contract.

6.40.06 CR PRICE TO COVER

The unit price bid per month for the item Engineer's Field Office shall include the cost of furnishing all labor, materials, equipment, ground rental, fire and theft insurance, and utility chargers necessary to complete the work of providing or constructing the field office; making all necessary electrical, water, sewer, and other connections required to make the above facilities operative; payment of all rental costs; furnishing and paying for heating fuel, as required; all electrical energy; private telephone services; staples, as specified; and all necessary incidentals to complete the Work - all in accordance with the specifications and the directions of the Engineer.

Payment will be made under:

Item No.	Item	Pay Unit
6.40 CR	ENGINEER'S FIELD OFFICE (COASTAL RESILIENCY)	MONTH

END OF SECTION

SECTION 6.52 – FLAGGERS, CROSSING GUARDS, AND PEDESTRIAN MANAGERS

6.52.1. DESCRIPTION.

(A) Intent

The Contractor must furnish an adequate number of competent personnel to control all traffic (vehicular, bicycle, micromobility, and pedestrian) when it is necessary to maintain alternating one-way traffic in one lane of a two-way roadway, and at all other locations where construction operations, construction vehicles and equipment, and temporary traffic patterns related to the construction operations require positive temporary traffic control (TTC) for safe, efficient traffic operations.

(B)Definitions

1. Flagger: A person who actively controls the flow of traffic into and/or through a temporary work zone using hand signaling devices. This position may consist of a full-time responsibility or a temporary responsibility.

2. Crossing Guard: A person who assists traffic navigate around a work zone. This position is always a full-time responsibility.

   For the purposes of this specification, a Crossing Guard is not a School Crossing Guard as described in the Manual on Uniform Traffic Control Devices (MUTCD).

   Where the term “uniformed flagperson” is used in the Contract Documents, this reference will mean Crossing Guard.

3. Pedestrian Manager: A subset of flaggers who specifically manage and control the movement of pedestrians through a work area. Pedestrian Managers are also responsible for coordinating the actions of multiple Flaggers and / or Crossing Guards. This position is always a full-time responsibility.

   Where the term “Flagger” is used in the Contract Documents, it will not mean Pedestrian Manager unless specifically noted.

(C)Distinguishing between Flaggers, Crossing Guards, and Pedestrian Managers

Conditions that make a worker a Flagger and not a Crossing Guard or Pedestrian Manager:

1 The worker performs tasks during the day other than assisting traffic navigate around a work zone.

2 They work from within the work zone.

6.52.2. MATERIALS.

(A)High-Visibility Safety Apparel

All Flaggers, Crossing Guards, and Pedestrian Managers must wear high-visibility safety apparel that meets the requirements of MUTCD Section 6E.02 and is approved by the Engineer.

(B)Hand-Signaling Devices

Stop/slow paddles and flags must meet the requirements of MUTCD Section 6E.03.

(C)Radios

Two-way radios must be provided for communication where necessary, or as ordered by the Engineer. Cellular phones are not an acceptable alternative for radios.

6.52.3. METHODS.

(A)Training and Certifications.

All Flaggers, Crossing Guards, and Pedestrian Managers must meet the following minimum requirements:

Because they are responsible for public safety and make the greatest number of contacts with the public of all workers, they should be trained in safe traffic control practices and public contact techniques. The training

must be by recognized training programs, including the American Traffic Safety Services Association, the National Safety Council, unions, or construction industry associations, or by an individual who holds a current certification as a flagger training instructor from such a program.

They must be able to satisfactorily demonstrate the following abilities:

1. Ability to receive and communicate specific instructions clearly, firmly, and courteously;
2. Ability to move and maneuver quickly in order to avoid danger from errant vehicles;
3. Ability to control signaling devices (such as paddles and flags) in order to provide clear and positive guidance to traffic approaching a TTC zone in frequently changing situations;
4. Ability to understand and apply safe traffic control practices, sometimes in stressful or emergency situations; and
5. Ability to recognize dangerous traffic situations and warn workers in sufficient time to avoid injury.
6. Ability to speak, write, and read English proficiently.

(B)Submittals

The following must be submitted to the Engineer for approval prior to the start of construction operations:

1. A list of personnel to be used as Crossing Guards, with their certifications, if Crossing Guards are to be used.
2. The high visibility safety apparel to be used for Flaggers, Crossing Guards, and/or Pedestrian Managers.

(C)Electronic Devices

The use of cell phones, music players, or other personal electronic devices by Flaggers or Crossing Guards while on duty is not allowed. This specifically includes earbuds, earphones, and other hands-free devices. Violation of this requirement will result in removal and replacement of the Flagger or Crossing Guard if requested by the Engineer.

(D)Crossing Guard and Pedestrian Manager quantities on Contractor's Maintenance and Protection of Traffic (MPT) Plans

If the Contractor prepares MPT plans for the work per **Section 6.70.1**, additional quantities of Crossing Guards and Pedestrian Managers will not be payable, unless specific prior written approval is granted by the Engineer. Approval of the MPT plans is specifically not approval of quantities for Crossing Guards and Pedestrian Managers.

(E)Verification of Competency

When requested by the Engineer, Crossing Guards shall demonstrate their competency in crossing guard procedures. Crossing Guards not competent in controlling vehicular and pedestrian traffic procedures to the satisfaction of the Engineer shall be retrained or replaced immediately.

6.52.4. MEASUREMENT.

(A)Flaggers

Flaggers will not be measured separately for payment; the costs of Flaggers must be included in the costs of all work being flagged.

(B)Crossing Guards

The quantity to be measured for payment shall be the number of person-hours of Crossing Guard service actually performed, as authorized by the Engineer. Laborers who are not full-time Crossing Guards will not be measured for payment as Crossing Guards under this or any other item. Each Crossing Guard shall be required to work a minimum of eight (8) hours a day and the Contractor will be given a minimum of twelve (12) hours advanced notice by the Engineer as to when to furnish a Crossing Guard.

(C)Pedestrian Managers

The quantity to be measured for payment shall be the number of person-hours of Pedestrian Manager service actually performed, as authorized by the Engineer. Laborers who are not full-time Pedestrian Managers will not be measured for payment as Pedestrian Managers under this or any other item. Each Pedestrian Manager shall be required to work a minimum of eight (8) hours a day and the Contractor will be given a minimum of twelve (12) hours advanced notice by the Engineer as to when to furnish a Pedestrian Manager.

6.52.5. PRICE TO COVER.

The contract price per person by the hour shall cover the cost of all labor, materials, equipment, and insurance necessary to employ full-time Crossing Guards, and equip the Crossing Guards with safety vests, hard hats, and signaling devices, including all other incidental costs necessary to control and detour traffic, as shown on the Contract Drawings or as directed by the Engineer.

The Contractor is advised that Crossing Guards and Pedestrian Managers are "traffic control workers" and must be paid the New York City Comptroller prevailing wage rate under the Laborer – Heavy and Highway trade classification. Flaggers must be paid the correct prevailing wage rate for the work they are performing based on the underlying trade classification of work being performed and the applicable New York City Comptroller prevailing wage rate.

Where there is no scheduled item for Crossing Guard, the cost of furnishing Crossing Guards as required shall be deemed included in the unit price bid for the Maintenance and Protection of Traffic item.

The costs for Flaggers are never paid separately and are included in the costs of the work related to the flagging.

Payment will be made under:

Item No.	Item	Pay Unit
6.52 CG	CROSSING GUARD	PERSON-HOUR (P/HR)
6.52 PM	PEDESTRIAN MANAGER	PERSON-HOUR (P/HR)

SECTION 6.47 PCA – DETECTABLE WARNING SURFACE PAVER

6.47 PCA.01 INTENT

A. Perform all work required to complete, as indicated by the Contract Documents, and furnish all supplementary items necessary for the proper installation of Pressed Concrete Pavers.

B. The paver installation shall be absolutely rigid, and even large slabs when subjected to vehicular traffic, shall not be displaced.

6.47 PCA.02 REFERENCES

A. Testing Standards

1. ASTM C-150-Specification for Portland Cement.
2. ASTM C-127-Test method for specific gravity and absorption of Course Aggregates.
3. ASTM C-128-Test method for specific gravity and absorption of Fine Aggregates.
4. ASTM C-136-Test method for sieve analysis of Fine and Coarse Aggregates.
5. ASTM C-140-Testing for sampling and testing Concrete masonry and related units.
6. ANSI A326.3 - Dynamic Coefficient of Friction.
7. ASTM C-1028-Static Coefficient of Friction.
8. ASTM C-1262-Test Method for Evaluating Freeze-Thaw Durability.
9. WTCL 99 -Load Carrying Capacity.

B. Tile Council of America (TCA)

1. Current TCNA F101- Mortar Installation
2. Current TCNA EJ171- Movement Joints

6.47 PCA.03 SUBMITTALS

A. All submittals must be submitted prior to purchase and must be made in accordance with the requirements of the NYC Department of Transportation Standard Highway Specifications, General Conditions, **Subsection 1.06.31**

B. Product Data:

1. Manufacturer's data sheets on each product to be used, including preparation instructions, installation methods, storage, handling requirements and recommendations.
2. Submit test results for compliance with performance requirements specified herein.
3. Submit written instructions for recommended maintenance.

C. Shop Drawings:

1. Layout drawings of each paved area showing the pattern of pressed pavers, indicate pavers requiring cutting, drainage patterns, drains and relationship of paving joints. Include details of setting beds, noting all materials and their thickness, and show details at curbs and vertical surfaces.
2. Details of custom (nonstandard) curbs and stair tread/risers, include methods of installation.

D. Samples:
    1. Submit sample to be selected by Engineer from manufacturer's available standard and custom colors.

6.47 PCA.04 QUALITY ASSURANCE

A. **Manufacturer Qualifications:** All products covered under this Section shall be produced by a single manufacturer, unless otherwise specified, with a minimum of fifteen (15) years proven production of this concrete paver product.

B. **Installer Qualifications:** Installer shall have a minimum of five (5) years proven specialized construction experience with this product and be capable of estimating and building from blueprint plans and details, in addition to proper material handling. All work must comply with local, state/provincial licensing and bonding requirements.

6.47 PCA.05 MOCK-UP INSTALLATION

A. Prior to the start of pressed concrete paver work, construct mock-up of each type of pressed paver size and pattern area for the owner and architect to review. The mock-up will be at the project site or at a location mutually agreed to by the owner and contractor.
    1. Construct the mock-up installation in a minimum 4-foot by 4-foot area of typical concrete units and slabs with all setting beds, joints, edge and curb details as shown on the drawings.

    2. After review of the mock-up, it will be retained and used as a standard of quality for the pressed concrete paver work. At completion of the work, remove the mock-up installations and related materials from the project site. If the mock-ups are incorporated in the actual construction, record their locations and sizes on the actual built record drawings for the project.

6.47 PCA.06 DELIVERY, STORAGE AND HANDLING

A. Pressed concrete pavers to be banded on pallets and delivered in original unopened packaging with legible manufacturer identification, manufacturing number and manufacture date.
B. Protect pressed concrete pavers during shipment, storage and construction against damage.
C. Maintain environmental conditions (temperature, humidity and ventilation). Do not install products under adverse environmental conditions.

6.47 PCA.07 MATERIAL REQUIREMENTS

A. The pressed paver system shall include the following components:
    1. Portland Cement: ASTM C-150 specifications for Portland Cement,
    2. Aggregates: All aggregates are tested in accordance with ASTM C127, ASTM C128, and ASTM C-136 specifications. Aggregate shall be blended to meet individual project requirements.
    3. Coloring: Pigments used shall be inorganic and alkali resistant and used per manufacturer's recommendations.

4. Factory Applied Sealer: Colorless slip and stain resistant penetrating or acrylic sealer.

B. Pavers
   1. Compressive Strength: (ASTM C-140) The average compressive strength shall not be less than 9,500 psi with no individual unit less than 8,000 psi.
   2. Water Absorption: (ASTM C-140) The average shall not be greater than 4.5 percent.
   3. Flexural Strength: (ASTM C-140) Shall not be less than 1800 lbs. avg.
   4. Center Load: (WTCL 99) Pressed paver units shall have a tested center load capacity of 2,000 lbs.
   5. Freeze/Thaw: (ASTM C-1262) Durability of the pressed paver shall meet the freeze/thaw tests per Section 8, shall have no breakage and not greater than 1 percent loss in dry weight of any individual unit when subject to 100 cycles of freeze/thaw.
   6. Dynamic Coefficient of Friction: (ANSI A326.3): Wet: $\geq$ 0.42
   7. Sizing Dimensions: Shall not differ by more than 1/16 inch (1.6 mm) from width, height, length or thickness. Unit shall conform to a true plane and not differ by more than 1/16 inch (1.6 mm) in either concave and/or convex warpage.

C. Mortar Setting Bed Method:
   1. Portland Cement Mortar Mix: Approved mortar mix for Thick Bed (1 1/4 to 2 inches) Mortar Mix. Basis of Design: ANSI A108.1 A, B, or C. May be a Pre-Blended Mortar Mix.
   2. Thinset: The use of an ANSI A118.4 Bonding Mortar or better is required. Basis of Design: Custom Building Products
   3. Optional Reinforcement: Welded galvanized wire mesh used in thick mortar bed.
   4. Water: Clean and free of deleterious acids, alkalies or organic materials.
   5. Grout: ANSI A118.7 High Performance Ceramic Tile Grouts. Basis of Design: Custom Building Products Prism Ultimate Performance Grout
   6. Sealant, Back-up and Bond Breaker: As specified in Section 07 92 00 – Joint Sealants.
   7. Pressed Pavers to be used in vehicular application must be a minimum of 2 3/4 inches thick.

6.47 PCA.08 CONSTRUCTION

A. INSPECTION. Examine all jobsite surfaces to receive the parts of the paving materials. Notify the contractor in writing of conditions detrimental to the proper and timely completion of the work. Do not proceed with the work until unsatisfactory conditions have been corrected. Installation of pressed concrete pavers and associated construction constitutes acceptance of the adjacent and underlying construction.

B. INSTALLATION
   1. Install in accordance with contributing manufacturer's instructions. Installation requirements vary for each individual project site. Pressed pavers used, pattern, grid layout, starting point and finished elevation should be shown on plan view shop drawings which have been prepared and approved by the designer, installing contractor and/or owner.

a. Installation: F101 and EJ171 in accordance with TCNA Thick Bed Setting installation method.

2. Placement Tolerance:
    a. Maximum of 1/16-inch (1.6 mm) height variation between adjacent pavers.
    b. Individual pressed pavers shall not vary more than 1/16 inch (1.6 mm) from level across width of the pressed paver.
    c. Paved areas shall not vary more than 1/4 inch (6 mm) in a distance of 10 feet (3 m) measured at any location and in any direction.
    d. The surface elevation of pavers shall be 1/8 inch to 1/4 inch (3 mm to 6 mm) above adjacent drainage inlets, concrete collars or channels.
    e. Joints between pavers to be greater than 1/16 inch (1.6 mm).

C. CLEANING AND PROTECTION
1. Remove and replace pressed pavers which are loose, chipped, broken, stained or otherwise damaged, or if units do not match adjoining units as intended. Provide new units to match adjoining units and install in same manner as original units with same joint treatment to eliminate evidence of replacement.
2. Wash entire surface with phosphate free neutral cleaner, rinse with clean water and allow to dry thoroughly.
3. Apply sealer in accordance with manufacturer's directions. Penetrating or topical type sealer designed especially for pressed concrete pavers.

6.47 PCA.09 MEASUREMENT. The quantity to be measured for payment shall be the number of SY of ADA compliant DETECTABLE WARNING SURFACE PAVERS actually installed, in place, to the satisfaction of the Engineer.

6.47 PCA.10 PRICE TO COVER. The Contract unit price shall be the square yard price bid and shall include the cost shall cover the cost of all labor, materials, equipment, insurance, and incidentals required to furnish and install ADA compliant DETECTABLE WARNNG SURFACE PAVERS, as specified, complete, in place, in full compliance with the Contract Drawings, the specifications and the directions of the Engineer, and to furnish such mock-ups as required.

SECTION HW-908 — ALLOWANCE FOR EXTRA WORK DUE TO ARCHEOLOGICAL DISCOVERIES

In accordance with the Special Provisions article titled “ARCHAEOLOGICAL DISCOVERIES", should extra work be ordered by the Engineer as a result of any archaeological discoveries being found under this project, it must be paid for under this item as extra work in accordance with the requirements of Article 26 in the Standard Construction Contract dated March 2017.

Payment made under this Fixed Sum item must cover the cost of all labor, materials, plant, equipment, insurance, and incidentals necessary to complete any extra work ordered by the Engineer due to archaeological discoveries found at the site.

No guarantee is given that this allowance item will in fact be required in this Contract. The estimated ’fixed sum” amount shown in the Bid Schedule is included in the total bid solely to insure a method of payment for any extra work performed by the Contractor, as directed by the Engineer in consultation with the City’s Archaeologist due to archaeological discoveries found at the site.

Payment will be made under:

Item No.	Item	Pay Unit
HW-908	ALLOWANCE FOR EXTRA WORK DUE TO ARCHAEOLOGICAL DISCOVERIES	F.S.

END OF SECTION

SECTION RHCR 6.25 GS — GREENWAY REROUTING SIGNS

RHCR 6.25.01 GS DESCRIPTION

The Work shall consist of the fabrication, furnishing, installation, and maintenance of temporary Greenway detour signs required to properly stage the work and maintain bicycle traffic. The Work shall include the furnishing of signs, and sign posts, including all accessories; installation of signs and sign posts, including footings, at locations specified on the Contract Plans and as directed by the Engineer; and the maintenance, removal and disposal of temporary detour signs.

RHCR 6.25.01 GS MATERIALS

All materials and the details of fabrication and assembly shall be as shown on the Contract Drawings, outlined in the Special Provisions, and in accordance with the applicable standards of the New York City Department of Transportation, Division of Traffic Operations or the National Manual on Uniform Traffic Control Devices for Streets and Highways (National MUTCD), 2009 or latest Edition, where applicable, the following requirements, and as approved by the Engineer.

(A) Sign shall be made of flat unpainted Aluminum, Alloy 6061-T6 or approved equivalent, of the thickness 0.025".

No painted signs will be permitted, and all orange reflective sheeting applied to rigid substrates shall be one of the following listed fluorescent orange reflective sheeting materials or an approved equal:

Scotchlite Durable Fluorescent Diamond Grade Sheeting 3924 F/G Orange as manufactured by the 3M Company, Traffic Control Materials Division. Diamond shaped signs shall use 3924F reflective sheeting. Square or rectangular shaped signs shall use 3924G reflective sheeting.

Stimsonite Fluorescent Orange High-Performance Grade Retroreflective Sheeting No. 4380.

Approved reflective sheeting shall be installed in accordance with the manufacturer's written instructions, and to the satisfaction and approval of the Engineer.

(B) Posts shall be of the steel rail type, furnished with a baked green alkyd resin, without anchor plates and shall be rolled from material meeting the requirements of ASTM Designation A 499.

(C) Concrete for footings shall be Class B-32, Type IIA; cement - Type II Portland, sand - Type 1A; coarse aggregate Type 1, Grade B, or Type 2, Size No. 57; and an approved air-entraining agent shall be added at the time that concrete is mixed. Concrete, cement and aggregate shall comply with the requirements of Section 3.05.

(D) All other unspecified materials shall be approved by the Engineer.

RHCR 6.25.02 GS METHODS

(A) SIGNS

All greenway rerouting signs used during the construction period are to be furnished by the Contractor, as required. The Contractor shall install these signs where indicated on the plans and as directed by the Engineer, and, when no longer required, shall remove these signs and dispose.

(B) INSTALLATION OF SIGNS

The erection of a sign shall include all work necessary to secure the sign to the sign post, including the furnishing and installation of clamps, brackets, and all necessary appurtenances and the attachment of the sign in the prescribed location and alignment, as indicated on the Contract Drawings. The erection of the signs shall comply with the applicable details of Drawing Nos. SD-225A, SD-225B and SD-225F of the Division of Traffic Operations, and the directions of the Engineer.

All signs shall be erected plumb and facing in the proper direction and angle as directed by the Engineer. The use of wire, twine or other similar temporary measures to fasten the signs to the post will not be permitted.

The back of each sign shall be clearly labeled with the Contractor's Company Logo, the Agency Name (NYCDDC) and the Contract Number, each from 1-1/2 to 2 inches in height, as approved by the Engineer.

(C) SIGN POSTS

All sign posts of the steel rail type furnished shall be of a uniform, modified, flanged channel section such that the area of contact between the post and the sign is symmetrical with the vertical axis of sign and posts.

The minimum dimensions of posts shall be as follows:

Width of Flange Face	Width of Back	Depth from Face of Flange to Back
3-1/2"	1-7/8"	1-3/4”

The minimum weight of each post before holes are punched shall be 3.0 pounds per foot. There may be a weight tolerance of plus or minus 5%.

The length shall be 12'- 0" with a tolerance of plus or minus one inch.

All posts shall be punched with 3/8" diameter holes on the centerline spaced at 1" centers beginning 1” from top of post for the entire length.

The finished posts shall be machine straightened and have a smooth uniform finish free from cracks, flaws, injurious seams, laps, blisters, ragged, sharp and imperfect edges, or other defects affecting strength, durability, or appearance. Bolt holes of the diameter specified shall be accurately spaced vertically and centered horizontally, so that the holes will register for back to back application. All holes and sheared ends shall be free from burrs.

All posts shall be painted with a weather-resistant, rust-inhibitive, high-quality, dark green enamel, which shall produce hard, mar-resistant coating, free from paint cracks, blisters or other defects. Before painting, all posts shall be thoroughly cleaned of all dirt, rust, loose scale, oil or grease. The quality of the paint and prior preparation shall be such that when the finished post is struck a light blow with a sharp tool, the paint shall not crack or chip, and if scratched with a knife, shall not powder. The minimum thickness of the dry film enamel shall be one mil. It shall pass a standard 100-hour salt spray test (20% solution by spray or fog at 70 degrees). Painting shall be the final process after fabrication and punching has been completed.

(D) INSTALLATION OF SIGN POSTS

(1) General. The work to be done shall be the installation of sign posts of the steel rail type only. The posts shall be installed in existing sidewalk, or earth. The Work shall include excavation, backfilling, the restoration of the sidewalk, and the placement of concrete footing for the posts.

(2) Installation Method. The installation of steel rail type sign posts shall be done in accordance with the details shown on the appropriate Division of Traffic Operations Standard Drawings Nos. SG-104, SG-105, SG-104B, or SG-105B. The Contractor may elect to set the sign post in concrete foundation as shown on the Standard Drawings, as modified by the Engineer.

(3) Concrete Footing for Posts. The Contractor shall cut a neat hole in the sidewalk or earth, and excavate to the required depth, then pour the concrete and install the sign post in the fresh concrete, as shown on the D.T.O Standard Drawings. Where the sidewalk is made of brick paver, the concrete footings shall be poured prior to installation of the brick paver sidewalk. The concrete mix and placement shall meet

the requirements of Section 3.05 and 4.06 respectively. The exposed surface shall be troweled to a neat, smooth finish, sloped to provide drainage away from the post.

The Contractor shall dispose of all unused fill and other materials, leaving the site in a clean and neat condition. The Contractor shall also restore sidewalk areas which have been disturbed, in a neat and workmanlike manner, to the satisfaction of the Engineer.

To protect the restored sidewalk areas from mutilation, the Contractor shall use a temporary protective disc of cardboard, of sheet metal, or other satisfactory method, and remove same when concrete is cured as determined by the Engineer.

(E) REMOVAL OF SIGNS

The removal of a sign shall include all work necessary to detach the sign from the sign post, including disassembling of clamps, brackets, and all appurtenances, and cutting and removal of the sign post to a minimum one (1) inch below the surface. The Work shall also include restoration of sidewalk areas which have been disturbed to the satisfaction of the Engineer. Removed sign panels, attachment assemblies and sign posts shall become a property of the Contractor.

RHCR 6.25.03 GS MEASUREMENT

The quantity to be measured for payment shall be the number of temporary Greenway detour signs initially furnished and installed, and properly removed when no longer required.

RHCR 6.25.04 GS PRICE TO COVER

The Contract price per each sign shall cover the cost of all labor, materials, plant, equipment, and incidentals necessary to install the post on sidewalk or earth, to excavate and backfill for footing, to place the concrete footing and to restore all disturbed areas, all as shown on Contract Documents, and in accordance with the specifications and directions of the Engineer.

The Contract price per each sign removed shall cover the cost of all labor, materials, plant, equipment, and incidentals necessary to remove temporary sign and sign post, including repairing of the sidewalk disturbed by the removal of the posts.

Payment will be made under:

Item No.	Item	Pay Unit
RHCR 6.25 GS	INSTALL GREENWAY REROUTING SIGNS	EA
RHCR 6.25 GSX	REMOVE GREENWAY REROUTING SIGNS	EA

END OF SECTION

SECTION RHCR-10 — AIR QUALITY MONITORING

RHCR-10.01 DESCRIPTION

(A) This section specifies the procedures and requirements for Construction Air Quality Monitoring (AQM) and Reporting.

(B) Prior to construction commencement, the Contractor must develop and implement a construction AQM plan that will measure air pollutant emissions at selected locations during construction activities. The air quality monitoring plan must be submitted to the Engineer for approval.

(C) The AQM plan must specify the monitoring locations, the alert thresholds, the procedures for monitoring, the distribution list for regular air emissions data reports, the course of action for reporting and responding to exceedances of air quality alert thresholds, and maintenance protocols.

RHCR-10.02 GENERAL REQUIREMENTS

(A) It is expected that AQM during construction will be conducted in a minimum of four (4) locations or as determined by the Engineer. It is also expected that the AQM stations will be relocated as necessary during construction to reflect the sequence of construction, as approved and directed by the Engineer. The Contractor will also develop a distribution and action plan for the monitoring data.

(B) AQM stations must be maintained to continuously record particulate matter concentrations and meteorological data on a real-time basis. Monitoring must be performed prior to the start of construction to obtain pre-construction background data.

(C) Particulate matter (PM2.5, and PM10) must be collected continuously, 24-hours a day and 7 days a week, for the duration of the construction period. Meteorological data, which will include barometric pressure, humidity, precipitation, temperature, wind speed, and wind direction, must be collected from stations that include meteorological monitoring equipment.

(D) The AQM stations must be configured to obtain the data averaged over 1-minute intervals, and the data will be used to record running 15-minute averages for particulate matter (PM2.5 and PM10) monitoring. These 15-minute averages must be compared with the background concentrations to monitor conformance with the applicable allowable limits which would be established as part of the AQM plan and determine any changes in air emissions levels due to construction activities.

(E) Annual calibration and maintenance in conformance with the manufacturer‘s specifications must be conducted for the AQM and meteorological instrumentation.

RHCR-10.03 AIR QUALITY REQUIREMENTS

(A) Construction activity must not increase limits beyond the National Ambient Air Quality Standards.

(B) Measures must be taken to reduce pollutant emissions during construction in accordance with all applicable laws, regulations, and building codes, including Local Law 77 of 2003 which requires the use of ULSD and best available technology (BAT)

(C) Clean Fuel. Ultra Low Sulfur Diesel (ULSD) fuel must be used exclusively for all diesel engines throughout the construction site, including marine equipment.

(D) Dust Control Measures. To minimize dust emissions from construction activities, a dust control plan including a robust watering program is required. This plan must include that all trucks hauling loose material must be equipped with tight-fitting tailgates and their loads securely covered prior to leaving the project area; water sprays must be used for all excavation and transfer of soils to ensure that materials will be dampened as necessary to

avoid the suspension of dust into the air. Loose materials (e.g., on-site material storage piles) will be watered or covered. All construction related dust reduction measures require by DEP's Construction Dust Rules will be implemented.

(E) Idling Restriction. In accordance with Title 24, Chapter 1, Subchapter 7, Section 24-163 of the NYC Administrative Code, the local law restricting unnecessary idling on roadways, truck idle time must be restricted to three minutes except for those vehicles that are not using their engines to operate a loading, unloading, or processing device (e.g., concrete mixing trucks) or otherwise required for the proper operation of the engine.

(F) Best Available Tailpipe Reduction Technologies. Nonroad diesel engines with a power rating of 50 hp or greater, and controlled truck fleets (i.e., truck fleets under long-term contract with the proposed project), including, but not limited to concrete mixing and pumping trucks, must utilize BAT for reducing diesel particulate matter emissions. Diesel particulate filters (DPFs) have been identified as being the tailpipe technology currently proven to have the highest emissions reduction capability and must be used on all nonroad diesel engines rated at 50 hp or greater, either installed by the original equipment manufacturer or retrofitted. Retrofitted DPFs must be verified by the EPA or the California Air Resources Board. Other technologies proven to achieve an equivalent emissions reduction may also be used.

(G) Utilization of Newer Equipment. All nonroad construction equipment with a power rating of 50 hp or greater must meet at least the Tier 3 emissions standard.

(H) Diesel Equipment Reduction. the Contractor's means and methods must minimize the use of diesel engines and utilize electric engines to the highest extent practicable. Equipment that should use electric engines in lieu of diesel engines includes, but may not be limited to, welders, compressors, and rebar benders.

RHCR-10.04 SUBMISSION REQUIREMENTS

(A) AQM plan for Engineer's approval.

(B) Monthly reports of AQM results, including detailed air quality data at each monitoring location throughout each workday during the monitoring period.

RHCR-10.05 MEASUREMENT

Air quality monitoring will be measured for payment as the number of months satisfactorily performed, measured to the nearest month.

No payment will be made for periods where the air quality monitoring is not performed to the requirements of this section, the AQM plan, or as directed by the Engineer.

RHCR-10.06 PRICE TO COVER

The unit price bid per month must include the cost of furnishing all labor, materials, equipment, insurance, and other necessary incidentals required to complete the work in accordance with the specifications and the directions of the Engineer.

Payment will be made under:

Item No.	Item	Pay Unit
RHCR-10	AIR QUALITY MONITORING	MONTH

END OF SECTION

SECTION RHCR-15 — OPERATION AND MAINTENANCE DATA

RHCR-15.01 MEASUREMENT AND PAYMENT

No separate measurement or payment will be made for submittal requirements as specified herein. Payment for the work covered under this section shall be distributed throughout the existing bid items. Payment for materials incorporated in the Work will not be made if required approval has not been obtained.

RHCR-15.01 SUBMISSION OF OPERATION AND MAINTENANCE DATA

Submit OPERATION AND MAINTENANCE (O&M) DATA specifically applicable to this Contract and a complete and concise depiction of the provided equipment, product, or system, stressing and enhancing the importance of system interactions, troubleshooting, and long-term preventative maintenance and operation. The Contractor shall prepare O&M instructions including component data from Subcontractors and deliver to the Engineer prior to the orientation of maintenance personnel. The Contractor shall compile and prepare aggregate O&M data including clarifying and updating the original sequences of operation to as-built conditions. Organize and present information in sufficient detail to clearly explain O&M requirements at the system, equipment, component, and subassembly level. Include an index preceding each submittal.

(A) PACKAGE QUALITY

Documents must be fully legible. Poor quality copies and material with hole punches obliterating the text or drawings will not be accepted.

(B) PACKAGE CONTENT

Data package content shall be as shown in the Part 5 of this Specification titled "Schedule of Operation and Maintenance Data Packages." Comply with the data package requirements specified in Part 5 of this Specification , including the content of the packages and addressing each product, component, and system designated for data package submission.

(C) CHANGES TO SUBMITTALS

Manufacturer-originated changes or revisions to submitted data shall be furnished by the Contractor if a component of an item is so affected subsequent to acceptance of the O&M Data. Changes, additions, or revisions required by the Engineer for final acceptance of submitted data, shall be submitted by the Contractor within 30 calendar days of the notification of this change requirement.

(D) REVIEW AND APPROVAL

The Engineer shall review the gate Systems and equipment submittals for completeness and applicability. The Engineer shall verify that the systems and equipment provided meet the requirements of the Contract Documents and design intent, particularly as they relate to functionality, energy performance, water performance, maintainability, sustainability, system cost, and local environmental impacts.

(E) O&M DATABASE

The Contractor shall develop a database that contains the information required to start a preventative maintenance program for all components in accordance with manufacturer instructions.

RHCR-15.02 (NOT USED)

RHCR-15.03 TYPES OF INFORMATION REQUIRED IN O&M DATA PACKAGES

(A) OPERATING INSTRUCTIONS

Include specific instructions, procedures, and illustrations for the following phases of operation for the installed model and features of each system:

(1) Safety Precautions

List personnel hazards and equipment or product safety precautions for all operating conditions.

(2) Operator Prestart

Include procedures required to install, set up, and prepare each system for use.

(3) Startup, Shutdown, and Post-Shutdown Procedures

Provide narrative description for Startup, Shutdown and Post-shutdown operating procedures including the control sequence for each procedure.

(4) Normal Operations

Provide narrative description of normal operating procedures. Include Control Diagrams where applicable with data to explain operation and control of systems and specific equipment.

(5) Alternative Operations

Provide narrative description of alternative operating procedures. Include Control Diagrams where applicable with data to explain alternative operation and control of systems and specific equipment.

(6) Labeling

Labeling of key parts, lubrication points, and direction of rotation for all equipment shall be provided by the Contractor.

(7) Operator Service Requirements

Include instructions for services to be performed by the operator such as lubrication, adjustment, and inspection.

(8) Environmental Conditions

Include a list of Environmental Conditions (temperature, humidity, and other relevant data) that are best suited for the operation of each product, component, or system. Describe conditions under which the item or equipment should not be allowed to operate.

(B) PREVENTATIVE MAINTENANCE

Include the following information for preventive and scheduled maintenance to minimize corrective maintenance and repair for the installed model and features of each system. Include potential environmental impacts of recommended maintenance procedures and materials.

(1) Lubrication Data

Include preventative maintenance lubrication data, in addition to instructions for lubrication provided under Subsection 4.01.G titled "Operator Service Requirements":

- A table showing recommended lubricants for specific temperature ranges and applications.
- Charts with a schematic diagram of the equipment showing lubrication points, recommended types and grades of lubricants, and capacities.
- A Lubrication Schedule showing service interval frequency.

(2) Preventative Maintenance Plan and Schedule

Include manufacturer's schedule for routine preventive maintenance, inspections, tests and adjustments required to ensure proper and economical operation and to minimize corrective maintenance. For periodic calibrations, provide manufacturer's specified frequency and procedures for each separate operation. Include detailed instructions for servicing and changing casters and caster assemblies on roller gates, servicing and changing moveable parts for adjustable seals, adjusting rubber seals, gate lifting for transporting to shops for major maintenance.

(3) Cleaning Recommendations

Provide cleaning recommendations for each product, component, or system.

(4) Corrective Maintenance (Repair)

Include manufacturer's recommended procedures and instructions for correcting problems and making repairs for the installed model and features of each system. Include potential environmental impacts of recommended maintenance procedures and materials.

(5) Troubleshooting Guides and Diagnostic Techniques

Include step-by-step procedures to promptly isolate the cause of typical malfunctions. Describe clearly why the checkout is performed and what conditions are to be sought. Identify tests or inspections and test equipment required to determine whether parts and equipment may be reused or require replacement.

(6) Wiring Diagrams and Control Diagrams

Wiring diagrams and control diagrams where applicable shall be point-to-point drawings of wiring and control circuits including factory-field interfaces. Provide a complete and accurate depiction of the actual job specific wiring and control work. On diagrams, number electrical and electronic wiring and pneumatic control tubing and the terminals for each type, identically to actual installation configuration and numbering.

(7) Maintenance and Repair Procedures

Include instructions and a list of tools required to repair or restore the product or equipment to proper condition or operating standards.

(8) Removal and Replacement Instructions

Include step-by-step procedures and a list of required tools and supplies for removal, replacement, disassembly, and assembly of components, assemblies, subassemblies, accessories, and attachments. Provide tolerances, dimensions, settings, and adjustments required. Instructions shaft include a combination of text and illustrations.

(9) Incidental Parts and Supply Lists

Include lists of incidental parts and supplies required for maintenance and repair to ensure continued service or operation without unreasonable delays. Identify incidental parts and supplies that have a long lead-time to obtain.

(C) APPENDICES

Provide information required below and information not specified in the preceding paragraphs but pertinent to the maintenance or operation of the product or equipment. Include the following:

(1) Product Submittal Data

Provide a copy of all catalog cuts, illustrations, schedules, diagrams, performance charts, instructions, and brochures illustrating size, physical appearance, and other characteristics of materials, systems, or equipment for some portion of the work.

(2) Manufacturer’s Instructions

Provide a copy of all preprinted material describing installation of a product, system, or material, including special notices and information concerning impedances, hazards, and safety precautions.

(3) O&M Submittal Data

Provide a copy of all:

- Data provided by the manufacturer, or the system provider, including manufacturer's help and product line documentation, necessary to maintain and install equipment, for operating and maintenance use by facility personnel
- Data required by operating and maintenance personnel for the safe and efficient operation, maintenance and repair of the item
- Data incorporated in an operations and maintenance manual or control system.

(4) Parts Identification

Provide identification and coverage for all parts of each component, assembly, subassembly, and accessory of the end items subject to replacement. Include special hardware requirements, such as requirement to use high-strength bolts and nuts. Identify parts by make, model, serial number, and source of supply to allow reordering without further identification. Provide clear and legible illustrations, drawings, and exploded views to enable easy identification of the items. When illustrations omit the part numbers and description, both the illustrations and separate listing shall show the index, reference, or key number that will cross-reference the illustrated part to the listed part. Parts shown in the listings shall be grouped by components, assemblies, and subassemblies in accordance with the manufacturer's standard practice. Parts data may cover more than one model or series of equipment, components, assemblies, subassemblies, attachments, or accessories, such as typically shown in a master parts catalog.

(5) Warranty Information

List and explain the various warranties and clearly identify the servicing and technical precautions prescribed by the manufacturers or Contract Documents in order to keep warranties in force. Include warranty information for primary components.

(6) Personnel Orientation Requirements

Provide narrated instructional video footage of opening, closing, and latching of gates and reverse order to open and secure gates in the opened position using all instructed methods.

(7) Testing Equipment and Special Tool Information

Include information on test equipment required to perform specified tests and on special tools needed for the operation, maintenance, and repair of components.

(8) Testing and Performance Data

Include completed prefunctional checklists, functional performance test forms, and monitoring reports. Include recommended schedule for retesting and blank test forms. Checklist items include but are not limited to:

- Tide gates, swing gates and roller gates operate and move freely
- Latching handles on roadway gates operate and move freely
- Gates are secure when stored in locked position
- Coatings are intact with no rust
- Rubber gate seals are secured and protected with no tears
- Visible steel members and beams are correctly aligned

- Drain holes are clear of debris or other obstructions
- Tension rods are tight and lubricated
- Roller gate tracks and rails are aligned

(9) Contractor Information

Provide a list that includes the name, address, and telephone number of the General Contractor and each Subcontractor who installed the product or equipment, or system. For each item, also provide the name address and telephone number of the manufacturer's representative and service organization that can provide replacements most convenient to the project site. Provide the name, address, and telephone number of the product, equipment, and system manufacturers.

RHCR-15.04 SCHEDULE OF OPERATION AND MAINTENANCE DATA PACKAGES

Furnish the O&M data packages specified here for specific project components. The required information for each O&M data package is as follows:

(D) Roller gates

(1) Safety precautions
(2) Operator prestart
(3) Normal operations
(4) Alternative operations
(5) Operator service requirements
(6) Lubrication data
(7) Preventative maintenance plan and schedule
(8) Cleaning recommendations
(9) Removal and replacement instructions
(10) Incidental parts and supply list
(11) Product submittal data
(12) Manufacturer’s instructions
(13) O&M submittal data
(14) Parts identification
(15) Testing equipment and special tool information
(16) Warranty information
(17) Personnel orientation requirements
(18) Testing and performance data
(19) Contractor information

(E) Flip-up barriers

(1) Safety precautions
(2) Operator prestart
(3) Normal operations
(4) Alternative operations
(5) Operator service requirements
(6) Lubrication data
(7) Preventative maintenance plan and schedule
(8) Cleaning recommendations
(9) Removal and replacement instructions
(10) Incidental parts and supply list
(11) Product submittal data
(12) Manufacturer’s instructions
(13) O&M submittal data
(14) Parts identification
(15) Testing equipment and special tool information

(16) Warranty information
(17) Personnel orientation requirements
(18) Testing and performance data
(19) Contractor information

RHCR-15.05 MEASUREMENT AND PAYMENT

No separate payment will be made for compliance with the requirements of this Section.

END OF SECTION

SECTION RHCR 60 – STEEL SLEEVE

RHCR-60.01 INTENT

This Section describes construction and installation of a utility conduit in a steel sleeve.

RHCR-60.02 DESCRIPTION

1.01 GENERAL

A. The sleeves shall be constructed to the sizes, kinds, classes, and wall thicknesses of pipe specified and in accordance with the details shown on the Contract Drawings.

RHCR-60.03 SUBMITTALS

A. The Contractor shall submit the following:

1. Before commencing any operations associated with the construction of utility conduit in a steel sleeve the Contractor shall submit a detailed description of the proposed method of installation including locations and dimensions, insertion procedures, and all shop drawings required for review and approval by the Engineer. These submittals shall include procedural details to allow the Engineer to evaluate the procedure to be used. All pertinent dimensions, material properties, and design calculations must be shown.
2. Proposed insertion plan for grout fill of annular space between the utility conduit main carrier pipe and steel sleeve. Grouting fill of annular space plan shall include details of grout fill materials (including source), installation procedures, equipment utilized, grout fill quality control measures, and means of protecting new utility facilities during grout fill placement. Such method shall be capable of filling all voids between the steel sleeve and the carrier pipe for the entire length, and shall not be capable of damaging the steel sleeve and it's jointing, nor capable of damaging or misaligning the brace and support spacers installed to align and insulate the utility conduit carrier pipe, nor cause any leakage of grout to the outside soil area of the steel sleeve.
3. Shop drawings shall be submitted in accordance with all applicable provisions of NYCDOT Standard Highway Specifications and the NYCDEP Standard Sewer and Water Specifications, as required and modified in Section B2 of the S-Pages.
4. The Contractor shall allow a minimum of four (4) weeks for review.
5. All the above shall be submitted as a complete package. All designs shall bear the signature and seal of a Licensed Professional Engineer, currently registered in the State of New York
6. No work associated with the construction of utility conduits in steel sleeves shall commence until the Contractor receives all required approved shop drawing from the Department of Design and Construction, Division of Infrastructure.

RHCR-60.04 MATERIALS

A. Steel carrier pipe and steel fittings shall comply with the requirements of New York City Department of Environmental Protection (NYCDEP) Specifications For Trunk Main Work. (This publication includes Special Provisions For Trunk Main Work; and, Specification For Furnishing, Delivering And Laying Steel Pipe And Appurtenances.)

Ductile iron carrier pipe shall comply with the requirements of NYC DEP Standard **Specification Section 20.01 - Specifications For Ductile Iron Pipe And Accessories** (Section 2.01). Ductile iron fittings shall comply with the requirements of **NYC DEP Standard Specification Section 20.02 - Specifications For Ductile Iron Fittings And Accessories** (Section 2.02).

Joints for ductile iron pipe shall be restrained joint, and shall be TR-FLEX, as manufactured by U.S. Pipe Company, Birmingham, Alabama; or approved equal. The joints shall be pressure rated for 150-psi.

B. Steel Sleeves shall have an outer diameter (O.D.) as shown or specified and shall have a minimum sleeve thickness as specified in table below. The steel shall conform to ASTM A134 (plates: ASTM A283, Grade C) API std. 5L, Grade B. Hydrostatic tests will not be required for steel sleeves.

NOMINAL CONDUIT SIZE	O.D. INCHES	MINIMUM SLEEVE THICKNESS
6”	6.625”	0.280”
8”	8.625”	0.322”
10	10.750”	0..365”
12”	12.750”	0.375”
15”	15.750”	0.375”
18”	18.750”	0.375”
24”	24.750”	0.375”
30”	30.750”	0.375”
48”	48.750”	0.375”

All connections between successive steel sleeve pipe lengths shall be continuously butt-welded. Welds shall be made in conformance with AWS D1.1. However, mechanical Permalok joint connections will be permitted in lieu of butt-welded joints between successive steel casing pipe providing this joint can be shown to be capable of withstanding the installation loads.

C. Grout utilized to fill the voids between the steel sleeve and the utility conduit shall be Low Weight Cement Grout as described below: Low Weight Cement Grout: (a) Grout shall consist of neat Portland cement, water, Mearlcrete Foam Liquid concentrate and other materials as manufactured and recommended by the Mearl Corporation or approved equal. (b) Portland cement shall comply with the requirements of General Specification 11 - Concrete, as modified in Section 23.01, and shall be Type II. (c) Mixing water shall be a maximum of six (6) gallons per bag of cement (water/cement ratio is 0.53), and be potable, free from deleterious amounts of acid, alkali, salts, oils and organic materials. (d) Wet Density shall be 95-lb/ft³ maximum. Dry Density shall be 90-lb/ft³ maximum. Minimum 7-Day Compressive Strength shall be 300-psi. Minimum 28-Day Compressive Strength shall be 1,000-psi.

RHCR-60.05 METHODS

A. GENERAL

Excavation, fill and other work required for installation of steel sleeve shall be in accordance with the Contract Drawings and NYCDEP standard specifications for steel pipe water mains.

The Contractor shall follow the recommendations of the pipe manufacturer regarding the installation of the utility conduit. The recommended installation method used by the Contractor shall be such that no damage will occur to the carrier pipe when it is inserted.

The Contractor shall install the utility conduit approximately in the center of the steel sleeve. Utility conduit shall be properly braced and supported with spacers that are electrically insulated from the steel sleeve. The brace and support spacers shall be installed and positioned in accordance with the manufacturer’s recommendations. The Contractor shall submit design and method of bracing (including but not limited to type and location of spacers, and floatation design concerns) prior to installation of carrier pipe for approval by the Engineer. Contractor shall grout the annular space between the sleeve and the utility conduit in accordance with NYCDEP specification with low weight cement grout per Specification 60.31.4 (E). Link seal type assemblies shall be installed at each sleeve end. The excavated trench shall be dewatered wherever required due to groundwater conditions. The Contractor shall lower and maintain the groundwater level below the invert of the steel sleeve at all times during construction by dewatering means to prevent inflow

of water or water and soil into the shafts. The Contractor shall meet all applicable requirements for groundwater treatment and disposal.

B. SAFETY

The Contractor shall carry out the Contractor's operations in strict accordance with OSHA, NYC and the Manufacturer's safety requirements.

C. CLEANLINESS AND DISINFECTING PIPE

The inside of the carrier pipe shall be thoroughly cleaned before installation and kept clean during installation. Pipe ends shall be capped or plugged as necessary to maintain cleanliness throughout installation.

If the utility conduit to be installed is a water main:

- After the water main has been installed, complete, but prior to being put into service, the water main shall be thoroughly disinfected in accordance with the requirements of the specifications.

RHCR-60.06 CLEANING

Prior to the insertion of the pipe the Contractor will be required to remove and properly dispose of all sediments and deposits from within the steel sleeve.

The Contractor shall furnish all water and pumping equipment necessary for the cleaning operation. The sleeve shall be clean and entirely free from projections that might interfere with the insertion of the carrier pipe through it.

RHCR-60.07 INSPECTION AND TESTING

Immediately after the completion of the cleaning operation, the Engineer will conduct (unless waived in writing by the Engineer) a visual inspection of the steel sleeve for any defect or leakage so those repairs, if necessary, can be made. No utility conduit shall be installed until authorized by the Engineer.

The Contractor shall provide the Engineer, without charge, all facilities and assistance necessary to perform this visual inspection of the steel sleeve, and for obtaining any information the Engineer requires in order to access the progress and manner of the work performed.

The entire installation procedure shall be rigorously inspected as herein specified, but inspection shall not relieve the Contractor of responsibility to furnish material and perform work in accordance with the specifications. If at any time it is found that the pipe insertion procedure is not in accordance with these specifications, the pipe so installed will be subject to rejection.

If the utility conduit to be installed is a water main, the contractor shall perform the following tests after the after the water main pipe has been inserted into the steel sleeve:

A. For Ductile Iron Water Main Carrier Pipe - Combined pressure and leakage test in accordance with the requirements of these specifications, and as directed by the Engineer.

B. For Steel Water Main Carrier Pipe - Hydrostatic pressure test in accordance with the requirements of **New York City Department of Environmental Protection (NYCDEP) Specifications For Trunk Main Work**, and as directed by the Engineer.

C. If a section fails to pass the test specified above, the Contractor shall locate, uncover and repair or replace the defective pipe, pipe fitting, or joint to the satisfaction of the Engineer, all at the Contractor's own expense.

For all other utility conduits, testing shall be in accordance with utility owner's standard requirements and as directed by the engineer.

RHCR-60.08 GROUT FILL AROUND CARRIER PIPE

After the utility conduit is satisfactorily installed and passes inspection and testing, the utility pipe shall be secured to the steel sleeve at each end with a 12-inch thick concrete plug. Unless otherwise shown on the Contract Drawings, the Contractor shall submit along with the required submittal in NYC DEP Standard Specification Subsection 60.31.3 the design of these concrete plugs. The design of these concrete plugs shall incorporate a method for securing the concrete plugs to the ends of the steel sleeve and carrier pipe so as to be capable of withstanding the grouting pressures without slippage or blow-out at the ends. The concrete plugs design shall include an air relief port located at the highest (top) point of the plug. After approval by the Engineer the entire annular space between the inside of the steel sleeve and the outside of the utility conduit shall be filled with Low Weight Cement Grout in one continuous uninterrupted operation in a manner to prevent occurrence of any voids between the steel sleeve and the carrier pipe. The grout fill shall be placed by pneumatic or pumping equipment under a pressure between 10-psi and 15-psi to ensure that the entire void space has been evenly and completely filled. The pressure must be continuously monitored, and care must be taken to avoid pressures above 15-psi. Equipment and methods of placement of the grout fill will be subject to review by the Engineer. The volume of the grout being placed shall be monitored and recorded. A comparison between the theoretical volume and the actual volume of grout placed shall be done and any discrepancies shall be brought to the attention of the Engineer. The Contractor shall also fill the holes used to place the grout.

RHCR-60.09 MEASUREMENT

The quantity of utility conduits in steel sleeve to be measured for payment shall be the number of linear feet of each size, kind, class and wall thickness of utility conduit together with steel sleeve incorporated in the Work, complete, as shown, specified or required, measured horizontally along the center line of utility conduit.

RHCR-60.10 PRICE TO COVER

The Contract price for “STEEL SLEEVE” shall be the unit price bid per linear foot for each size, kind, class and wall thickness of the utility conduit together with steel sleeve and shall cover the cost of all labor, materials, plant, equipment, samples, tests and insurance required and necessary to construct the utility conduit in steel sleeves to the sizes and to the lines and grades shown, including the earth excavation of all materials of whatever nature encountered (**See NYC DEP Standard Specification SECTION 40.03 – EARTH EXCAVATION**); additional subsurface investigations; geotechnical instrumentation; all sheeting and bracing; pumping; bridging; connections; backfilling; complete (including temporary excavation supports, groundwater control, etc.); installation of steel sleeves; cleaning of pipe and steel sleeves; installation of utility conduit in steel sleeves; grouting of the annular space, installation of spacers and link seals, inspection and testing; grouting required to fill the voids between the inside of steel sleeves and the outside of utility conduit; disinfection of water main pipe where required; preparation, submittal and approval of all required shop drawings and designs; obtaining of all necessary permits; and furnishing and installing all other items necessary to complete this work and do all work incidental thereto, all in accordance with the Contract Drawings, specifications and standards and as directed by the Engineer.

In addition, included in the price hereunder shall be the cost of all labor and materials necessary to remove all specified and ordered structures and appurtenances that may be in the line of the Work and to do all the work incidental thereto, all in accordance with **NYC DEP Standard Specification Subsections 10.13 and 10.28** and as directed by the Engineer.

Payment for Steel Sleeves will be made under the Item Number as calculated below:

Payment will be made under:

Item No.	Description	Pay Unit
RHCR-60.SS06	STEEL SLEEVE for 6-INCH NOMINAL UTILITY CONDUIT	L.F.

RHCR-60.SS08	STEEL SLEEVE for 8-INCH NOMINAL UTILITY CONDUIT	L.F.
RHCR-60.SS10	STEEL SLEEVE for 10-INCH NOMINAL UTILITY CONDUIT	L.F.
RHCR-60.SS12	STEEL SLEEVE for 12-INCH NOMINAL UTILITY CONDUIT	L.F.
RHCR-60.SS15	STEEL SLEEVE for 15-INCH NOMINAL UTILITY CONDUIT	L.F.
RHCR-60.SS18	STEEL SLEEVE for 18-INCH NOMINAL UTILITY CONDUIT	L.F.
RHCR-60.SS24	STEEL SLEEVE for 24-INCH NOMINAL UTILITY CONDUIT	L.F.
RHCR-60.SS30	STEEL SLEEVE for 30-INCH NOMINAL UTILITY CONDUIT	L.F.
RHCR-60.SS48	STEEL SLEEVE for 48-INCH NOMINAL UTILITY CONDUIT	L.F.

END OF SECTION

SECTION RHCR-76.11 — PRECONSTRUCTION REPORT

RHCR-76.11.01 INTENT

The intent of this section is to prepare preconstruction reports for work to be performed under the Contract to ensure that the Contractor's proposed means and methods of construction do not create or aggravate any potentially dangerous conditions. In order to ascertain the effects of construction on structures, the Contractor will be required to retain the services of a qualified firm with experience in structural engineering, soil mechanics, foundations, installation of piles, evaluation of the effect of construction on buildings and structures, effects of dewatering and the associated movement of soil due to dewatering and the effect of vibrations upon structures. All construction work (bulkhead, floodwalls, ground improvement, roadway, sidewalk, curb, sewer, water main, regrading etc.) is subject to the preconstruction report.

RHCR-76.11.02 SPECIAL EXPERIENCE REQUIREMENTS

Within thirty (30) days of the award of this Contract, the Contractor shall submit to the City qualifications of the firm it proposes to provide the engineering services described in this section. The proposed firm must meet the following special experience requirements.

A. Such firm must, within the last three (3) consecutive years, have successfully provided engineering services similar to the services described in this section on a minimum of two (2) comparable projects.

B. Such firm must carry professional liability insurance as specified in Schedule "A".

Compliance with such special experience requirements will be determined solely by the City. Once a firm is approved, no substitution will be permitted, unless the City has approved the qualifications of the proposed replacement in writing in advance. If the qualifications of the proposed firm are not acceptable, the Contractor shall submit the qualifications of another proposed firm within fifteen (15) days of notice to do so.

RHCR-76.11.03 SUBMISSION OF PRECONSTRUCTION REPORT

Upon approval and prior to construction the chosen firm (hereinafter referred to as the firm) shall submit six (6) copies of report(s) incorporating their findings and recommendations. The report(s) shall be prepared by or under the immediate direction of a New York State Licensed Professional Engineer as evidenced by the imprint of the Professional Engineer's seal and signature on the document. The report(s) shall include but not be limited to the following:

A. A detailed description of the Contractor's proposed means and methods of construction including the installation of the excavation sheeting systems, below grade vaults and chambers, floodwalls, pile system, seepage barrier, utilities, and dewatering system.

B. An inspection of the interior and exterior (including photographs and digital audio- visual recordings as required) of all building, tunnel, and/or structures that may be affected by the proposed means and methods of construction and dewatering.

C. A definition of the "radius of influence" that the proposed dewatering, bulkhead and floodwall installation, pile installation, ground improvement, and other construction activity that will impart on the surrounding soil.

D. A definition of the limits of horizontal and vertical movement each building and/or structure within the "radius of influence" can tolerate without damage to the structural integrity of that building and/or structure, should these values be different than those provided for critical structures in **Section RHCR-76.21**; however, these limits shall be subject to the approval of the Engineer, and shall not exceed twice the limits provided for critical structures. Movements which shall be considered include, but are not limited to, vibration-related settlements, differential settlements, settlements

from dewatering, and building movement and/or rotation due to excavation or construction-related work.

E. A complete study of the vibrations that each building/structure can tolerate along with the anticipated vibrations promulgated by the means and methods of construction, taking into account the age and condition of the buildings.

F. A statement that the limits of movement and vibrations as defined in (D) and (E) above will not be exceeded as a result of the proposed means and methods of construction, as well as means and methods the Contractor, at the Contractor's own expense, will employ should any limits be exceeded. Limits of movement and vibrations shall be proposed by the Contractor and the firm hired by the Contractor, should those values be different than those provided for critical structures in **Section RHCR-76.21**, but not exceed twice the values for critical structures; however, these limits shall be subject to the approval of the Engineer.

G. A geological profile of the soils in the area. This profile shall be based upon the boring logs taken for this project. The Contractor, at own discretion, may make additional borings to supplement the boring logs taken for the Project. Supplemental borings made by the Contractor shall be at no additional cost to the City, the cost for these borings shall be deemed included in the price bid for the various items under **Section RHCR-76.11 - PRECONSTRUCTION REPORT**.

H. A geotechnical data summary including assumed values for the physical and strength characteristics of the soils shown on the Record(s) of Borings, developed from, but not limited to available soil and/or rock descriptions, blow counts, and available geotechnical laboratory testing. Such physical and strength characteristics include, but are not limited to, a soil's unit weight, friction angle, cohesion, consolidation properties, and permeability/drainage properties.

I. Engineering computations to substantiate any values stated, recommended, or defined in (C), (D) and (E), using the appropriate data from (G) and (H).

J. The Pre-Construction Report(s) shall include all field notes, measurements and photographs and digital audio-visual recordings, as required, of existing conditions which may be aggravated by the proposed construction work and shall include a visual inspection of the interior and exterior of all buildings and structures within the radius of influence of construction activity and dewatering. A view of each exterior face of the building and/or structure is required. Additional interior photographs shall be taken to show any existing cosmetic or structural damage on buildings and tunnels.

Applications for consents to enter buildings and/or structures for the purpose of inspection shall state that the inspection is necessary to ensure the structural integrity of the building. One counterpart of each consent, duly signed and acknowledged by the owner or one of the owners, executors or administrators for the owner and for the owner’s agents, lessee and any other persons who shall have a vested or contingent interest in the building, or notice of refusal if consent is not obtained shall be filed with the Engineer at least ten (10) days before the commencement of work which affect the building or structure.

The report shall also include recommendations or comments regarding any potentially dangerous and/or unsafe conditions uncovered along with all other additional information required pursuant to other sections of the specifications.

All results of the building or structure examinations shall be incorporated into the preconstruction report.

No work may begin until the Department of Design and Construction has accepted the preconstruction report. This pertains to all Contract Work and no exceptions will be allowed unless otherwise stated in these specifications.

Work shall include reporting as required for the NYC DEP Clinton St shaft facility. See Contract Specification section B6. NYC DEP RULES CONCERNING DRILLING AND EXCAVATION.

RHCR-76.11.04 PRICE TO COVER

The Contract price for Item PRECONSTRUCTION REPORT shall be a lump sum price and shall include the cost of all labor, materials, plant, equipment and insurance necessary or required to prepare the preconstruction report, including building examinations and do all other work incidental thereto all in accordance with the specifications and as directed by the Engineer.

RHCR-76.11.05 PAYMENT

No payment for the preconstruction report will be made until after the Department of Design and Construction has accepted the preconstruction report.

Payment will be made under:

Item No.	Item	Pay Unit
RHCR-76.11CR	PRECONSTRUCTION REPORT	L.S.

END OF SECTION

SECTION RHCR-76.21 — MONITORING AND POST-CONSTRUCTION REPORT

RHCR-76.21.01 INTENT

The intent of this section is to monitor and summarize the effects of construction activities on structures located within the influence line of work to be performed under the Contract to ensure that the Contractor's proposed means and methods of construction do not create or aggravate any potentially dangerous conditions.

The Contractor will be required to adhere to all criteria, requirements and recommendations of the Engineer approved preconstruction report(s).

RHCR-76.21.02 SPECIAL EXPERIENCE REQUIREMENTS

Within thirty (30) days of the award of this Contract, the Contractor shall submit to the City qualifications of the firm it proposes to provide the engineering services described in this section. The proposed firm must meet the following special experience requirements:

A. Such firm must, within the last three (3) consecutive years, have successfully provided engineering services similar to the services described in this section on a minimum of two (2) comparable projects.

B. Such firm must carry professional liability insurance as specified in Schedule “A".

Compliance with such special experience requirements will be determined solely by the City. Once a firm is approved, no substitution will be permitted, unless the City has approved the qualifications of the proposed replacement in writing in advance. If the qualifications of the proposed firm are not acceptable, the Contractor shall submit the qualifications of another proposed firm within fifteen (15) days of notice to do so.

The firm approved for the preparation of the preconstruction report(s) in accordance with **Section RHCR-76.11 - Preconstruction Report**, may also be submitted for approval to perform the monitoring and post-construction report work.

RHCR-76.21.03 SUBMITTALS

A. MONITORING REPORTS

The firm will be required to perform the monitoring during construction activity, including installation of sheet piles, piles, and seepage barrier, and submit reports to the Engineer on a weekly basis. These reports shall include sketches noting the location of all monitoring points. Should any of the criteria set forth in the preconstruction report(s) be exceeded, the Engineer shall be notified immediately. Monitoring shall include but not be limited to the following:

B. SETTLEMENT MONITORING

1. For Existing Structures and/or Buildings (other than Critical Structures as defined below):

    a. A series of reference points shall be established outside of the “radius of influence” (as previously described in Subsection 76.11.3, paragraph (C)) for monitoring structural settlements. All initial and subsequent readings shall be taken to the nearest one-hundredth (0.01) of a foot.

    b. Structures and/or buildings shall be monitored daily for vertical and horizontal movement with respect to when work is being performed within the radius of influence. Upon completion of work within the radius of influence, buildings and/or structures shall be monitored weekly for the first month then monthly for the next five (5) months. In the event of an unusual or unexpected event, monitoring shall be performed within twenty-four (24) hours of the event.

    c. Should the limit of horizontal and/or vertical movement, as set forth in the preconstruction report, of any building and/or structure be exceeded, the Contractor shall immediately and

concurrently notify the Engineer and, at the Contractor's own expense, follow the steps included in the preconstruction report outlined in Subsection 76.11.3, paragraph (F) to rectify the situation and prevent any further settlement of such building and/or structure. The Contractor shall be fully responsible for any damages to any foundations, walls or other portions of buildings and/or structures that may result during the courses of this construction. Any damage done by the Contractor, whether it is accidental or due to negligence or carelessness in performing the Work included in this Contract shall be made good by the Contractor at the Contractor's own expense.

d. Permissible settlement for structures, other than critical structures, may be established by the Contractor's consulting firm, but shall not exceed twice the amounts specified below for critical structures.

2. For Critical Structures when excavation, pile and ground improvement installation, and backfilling is being performed:

   a. Critical structures include but no limited to the NYCDEP Combined Interceptor Sewer and TBTA Tunnel

      1) See Project General Notes drawings for specific additional requirements for TBTA Transit facilities.

      2) See Project General Notes and Joint Bid package for specific additional requirements for ConEd utilities.

   b. Settlement points shall be installed at all critical structures, including columns of overhead structures adjacent to proposed construction work. A minimum of two (2) settlement points shall be established at each component of a critical structure or column.

   c. A minimum of two (2) benchmarks shall be established for the settlement monitoring. The benchmark should be a minimum of fifty (50) feet distance from the component of the critical structure or columns and construction work alignment.

   d. The initial survey of the settlement points shall be done prior to pile, sheet pile, or jet grouting installation or construction activity within one hundred (100) feet of the component of the critical structure or columns.

   e. A warning shall be issued if settlement reaches 1/8-inch.

   f. All pile, sheet pile, or jet grouting installation work, or construction activity within one hundred (100) feet of the critical structure or its columns shall be stopped if settlement reaches 1/4-inch.

   g. Frequency of settlement monitoring shall be as follows:

      1) Pile, sheet pile, or jet grouting installation between fifty (50) feet and one hundred (100) feet distance from the critical structure or its columns; once every four (4) days.

      2) Pile, sheet pile, or jet grouting installation within fifty (50) feet of the critical structure or columns; once every two (2) days.

      3) If the settlement reaches 1/8-inch; once a day.

3. All survey readings shall be done by or under the immediate supervision of a Licensed Land Surveyor, currently registered in the State of New York. All survey readings shall include the imprint of the Surveyor's seal and signature.

4. The Contractor shall transmit a copy of all readings to the Engineer on the same day they are taken.

C. VIBRATION MONITORING

1. For Existing Structures and/or Buildings (other than critical structures as defined below):

   a. Should the Contractor employ means and methods of construction that will result in vibrations being imparted to the surrounding soil and/or buildings and/or structures, the

Contractor shall monitor and record particle velocity. Locations of the monitoring points shall be placed in such a manner so as to ensure recordings that reveal any possibility of damage to existing structures and/or buildings. Location of the monitoring points shall be subject to the Engineer's approval.

b. These points shall be monitored at all times when means and methods of construction resulting in vibrations are employed. The maximum permissible peak particle velocity shall be that noted in the preconstruction report. Should particle velocities be exceeded the Contractor shall immediately cease operations and resort to another method which will eliminate or minimize the effect of vibrations.

c. It shall be the Contractor's responsibility to restore any buildings or structures damaged as a result of the Contractor's operations to its original condition or better.

d. The maximum permissible peak particle velocity may be established by the Contractor's consulting firm, but shall not exceed twice the value specified for critical structures.

2. For Critical Structures when excavation, piles, sheet piles, backfilling, and ground improvement installation is being performed:

a. Critical structures include but no limited to the NYCDEP Combined Interceptor Sewer, and TBTA Tunnel.

1) See Project General Notes drawings for specific additional requirements for NYC Transit facilities.

2) See Project General Notes and Joint Bid package for specific additional requirements for ConEd utilities.

b. Vibrations at critical structures shall be monitored during the installation of piles, sheet piles, and jet grouting that are between fifty (50) feet and one hundred (100) feet from the critical structure component or columns.

c. A total of two (2) seismographs shall be used for the monitoring; one (1) at each of the closest critical structure component or two (2) columns from pile installation.

d. Check the ambient vibration prior to vibration monitoring.

e. The allowable limit of vibration during pile driving is 0.5-inch per second (in particle velocity) above the ambient vibration level. Stop pile driving if the vibration exceeds 0.5- inch per second above ambient.

3. The results of the vibration monitoring shall be submitted to the Engineer on the same day of monitoring.

D. DEVIATION SURVEY

1. The deviation survey must be performed every 10 feet until it reaches the bottom of the drilling and/or excavation Work.
2. The allowable limit of deviation during the drilling and/or excavation Work is 5 degrees toward the NYCDEP Clinton Street facility. If exceeded, the Contractor shall stop Work, inform the City, and develop a remedial action plan to correct excessive deviation.
3. The results of the deviation survey shall be submitted to the City for review on the same day of surveying. The deviation survey output shall be processed to produce a log containing tabular and graphical representations of the borehole or well inclination, azimuth, and depth. The Contractor must maintain the log on site, must update the log at least once per shift or every 8 hours, whichever is sooner, and must make the log readily available for the City to review.

E. POST-CONSTRUCTION REPORT

Within thirty (30) days of the completion of all work that necessitated monitoring, the chosen firm shall prepare and submit six (6) copies of a report(s) detailing the results of the monitoring program. The report(s) shall include a comparison of all assumptions and field-measured values. Should

there be excessive discrepancies between the assumptions and field-measured values, an explanation shall be presented within the report(s). These reports shall include sketches of all monitoring points. The reports shall include the location and length of all piles and sheet piles driven superimposed on the geological profile. The location and lengths of piles and sheet piles to be installed are shown on the Contract Drawings. The post- construction report(s) shall be prepared by or under the immediate direction of a New York State Licensed Professional Engineer as evidenced by the imprint of the Professional Engineer's seal and signature on the document.

RHCR-76.21.04 RESPONSIBILITIES OF THE CONTRACTOR

Prior to bidding the Contractor shall examine the site and available subsurface inspection information and formulate means and methods of construction that will not result in any damage to existing structures. Should the Contractor lack the expertise in evaluating the effects of the Contractor's means and methods of construction, the Contractor should prepare its bid in consultation with an experienced firm or authority. In any event, the Contractor will be held liable for any damage to any existing structures due to the Contractor's means and methods of construction.

In addition, should the results of the preconstruction report(s) indicate that damage will result from the Contractor's proposed means and methods of construction, the Contractor will be required to amend the Contractor's means and methods of construction in accordance with the preconstruction report, at no additional cost to the City.

RHCR-76.21.05 PRICE TO COVER.

The Contract unit price shall be the lump sum price bid and shall include the cost of all labor, materials, plant, equipment and insurance necessary or required to prepare weekly reports, examine buildings and structures, perform the construction monitoring, prepare the post- construction report(s) and do all other work incidental thereto all in accordance with the specifications, and as directed by the Engineer.

No separate or additional payment will be made for compliance with the requirements of the preconstruction report(s) including, but not limited to, any modification to the Contractor's means and methods of construction.

Payment for this work shall be made proportional to the work completed as follows:

Completion of Field Monitoring	60%
Acceptance of Post-Construction Report	40%

Payment will be made under:

Item No.	Item	Pay Unit
RHCR-76.21MR	MONITORING AND POST-CONSTRUCTION REPORT	L.S.

END OF SECTION

SECTION 9.06 HW — ALLOWANCE FOR DECORATIVE MESH FABRIC

9.06 HW.01 DESCRIPTION

Under this section, the Contractor will be paid to furnish and install panels of breathable mesh fabric upon which artwork is printed in a maximum of four (4) colors, as directed by the Engineer. Each panel must be mounted on the construction barrier identified by the Engineer, typically Temporary Chain Link Fence (Item No. 6.34 ACTP), Fencing (Item No. 70.31), or metal Pedestrian Barricade identified by the Engineer (Item No. 7.36), unless an alternate method of mounting the panels is proposed by the Contractor and approved by the Engineer.

At the completion of the Work the panels must be uninstalled and delivered to the Engineer, unless otherwise directed. Panels must remain the property of the City, unless otherwise directed.

9.06 HW.02 MATERIALS

A. Artwork. Contractor must engage the services of an Artist selected by the City. The Artist, in consultation with the Engineer and DDC's Public Art Unit must develop the artwork.

B. Mesh Fabric Panels. Fabric must be a breathable mesh fabric, with metal grommets installed at a one (1) foot maximum spacing around the perimeter of the fabric. Fabric panels must have sufficient air vent slits (u-cuts) to prevent overturning of the fence or barricade thatit is mounted to. Slits must be approximately 6" wide semi-circles, spaced no further than 2' on center, staggered vertically. Slit edges to be electrically cauterized to prevent fraying. Slit and grommet locations must be shown on the shop drawings.

C. Submittals. Contractor must submit to the Engineer for approval, in consultation with DDC's Public Art Unit:

1. Final Artwork package (provided by the Artist) for printing panels;
2. Shop Drawings for each panel, showing artwork, grommets, and air ventslits;
3. Samples and catalog cuts for fabric panel material;
4. Name and qualifications of printing company that will prepare the panels.

9.06 HW.03 PRICE TO COVER

The lump sum payment made under this item must be equal to the sum total of all invoices submitted by the Contractor, as approved by the Engineer, for design of artwork, furnishing and installing decorative mesh fabric materials, to the satisfaction of the Engineer, plus an allowance of 12% overhead and 10% profit.

The total estimated cost of this item is the "fixed sum" amount shown for this item in the Bid Schedule and must not be varied in the bid. No guarantee is given that the actual lump sum cost for this item will in fact be the "fixed sum" amount. The "fixed sum" amount is included in the bid solely to ensure that sufficient monies will be available to pay the Contractor for this work, which may be more or less than the fixed amount. This "fixed sum" amount must be included with the other amounts bid by the Contractor for all the other items under thiscontract.

The unit price must cover the cost of all labor, materials, equipment, insurance, and incidentals necessary to complete the Work under this section in accordance with the drawings, the specifications and the directions of the Engineer.

Payment will be made under:

Item No.	Item	Pay Unit
9.06 HW	Allowance for Decorative Mesh Fabric	F.S.

END OF SECTION

SECTION RHCR 9.30 - STORMWATER POLLUTION PREVENTION

RHCR 9.30.01 INTENT.

The intent of this section is to address erosion and sediment control as well as control of pollutants generated during construction activities that disturb an area of one acre or more. It also includes activities involving soil disturbances of less than one acre where the Department has determined that a SPDES permit is required for Stormwater discharges that may contribute to a violation of a water quality standard. The objective is to implement a Stormwater Pollution Prevention Plan (SWPPP) that will minimize the pollutants entering the storm sewer systems in compliance with the New York's State Pollutant Discharge Elimination System (SPDES) General Permit for Stormwater Runoff from Construction Activity, GP-0-20-001, issued pursuant to Article 17, Titles 7, 8 and Article 70 of the Environmental Conservation Law (ECL) and in compliance with the City's separate Municipal Separate Storm Sewer System Construction Permitting (MS4CP) Program. The MS4CP Program was established to meet the requirements of the SPDES Permit, NY-0287890, issued on August 1, 2015 for MS4s owned or operated by the City of New York.

Copies of the General Permit and the Notice of Intent (NOI) for New York are available by calling (518) 402-8109 or at any New York State Department of Environmental Conservation (NYSDEC) regional office, or at the following website: http://www.dec.ny.gov/

Information on the City's MS4CP Program are available at the following website: https://www1.nyc.gov/site/dep/water/municipal-separate-storm-sewer-system.page

New York City Department of Design and Construction (NYCDDC) is currently preparing the SWPPP and MS4 applications. A copy of the SWPPP for the RHCR Contract will be provided to the Contractor, including copies of the General Permit and the Notice of Intent (NOI) for New York.

Erosion and Sediment Control (E&SC) measures shown in the SWPPP and E&SC drawings were developed for the RHCR project; any changes to approved scheduling or sequencing would need to be coordinated and in compliance with the NYSDEC's GP-0-20-001 and the New York City MS4 Stormwater Construction Permit (SCP**).**

RHCR 9.30.02. MATERIALS AND METHODS.

The Contractor and their subcontractor(s) must sign onto the Contractor/Subcontractor SPDES Permit Certification (CONR 5) and be responsible for implementing and maintaining the SWPPP prepared for this Contract. The Contractor shall retain the services of an independent Licensed/Certified Professional with practical experience in the principles and practices of erosion and sediment control and Stormwater management, to perform the role of the "Qualified Inspector." The "Qualified Inspector" must be a Professional Engineer or a Landscape Architect licensed to practice in New York State, or a Soil and Water Conservation Society Certified Professional in Erosion and Sediment Control (CPESC) who is independent from the Contractor.

The Contractor shall implement Stormwater Management Practices (SMPs) that are to be used, if required, to reduce the pollutants in stormwater discharges, their sequence of implementation and associated design details of the SMPs to be installed for their designated contract as shown in the RHCR SWPPP. All practices included in the SWPPP shall be in conformance with the most current version of the New York State Standard and Specifications for Erosion and Sediment Control.

The Contractor shall provide site specific updates to E&SC Plans contained in the SWPPP to accommodate their means and methods of construction and submit these for approval. The updated E&SC Plans shall include a minimum of the following in accordance with SMPs described in the SWPPP:

a. A site map/construction drawing(s) showing the total site area, all improvements, areas of disturbance, areas that will not be disturbed, existing vegetation, the specific locations, sizes and length of each erosion and sediment control practice, on-site and adjacent off-site surface waters, wetlands and drainage patterns that could be affected by the construction activity, existing and final slopes, equipment storage areas and locations of the stormwater discharge;

b. A Construction phasing plan and sequence of operations describing the intended order of construction activities, including clearing and grubbing, excavation and grading, utility and infrastructure installation and any other activity at the site that results in soil disturbance. The construction phasing plan must include a timeline in accordance with the overall project schedule;

c. A description of the minimum erosion and sediment control practices to be installed or implemented for each construction activity that will result in soil disturbance. Include a schedule that identifies the timing of initial placement or implementation of each erosion and sediment control practice and the minimum time frames that each practice should remain in place or be implemented;

d. A temporary or permanent soil stabilization plan that meets the requirements of the most current version of the New York Standards and Specifications for Erosion and Sediment Control, for each stage of the project, including initial land clearing and grubbing to project completion and achievement of final stabilization;

e. The dimensions, material specifications, installation details, and operation and maintenance requirements for all sediment control practices;

f. An inspection schedule for the Contractor and Sub-Contractor(s) identified in the SWPPP, to ensure continuous and effective operation of the erosion and sediment control practices; and,

g. A description of the pollution prevention measures that will be used to control litter, construction chemicals and construction debris from becoming a pollutant source in the stormwater discharges.

The Contractor must obtain and maintain a copy of the prepared SWPPP materials for the RHCR Contract, including the SWPPP, SWPPP MS4 Acceptance Form from NYCDEP, and NYSDEC NOI. The Contractor is responsible for the preparation, submittal, and procurement of the Permit Initiation Form associated with the NYCDEP SCP. Work must not begin until the permit identification number is issued by the NYSDEC, SCP is issued for the project by NYCDEP, and an initial inspection is conducted by the Qualified Inspector certifying that the appropriate control measures specified in the SWPPP have been adequately implemented to the satisfaction of the Engineer in consultation with the Engineering Support Unit. The contractor must notify the NYCDEP no fewer than 7 days prior to start of development activity.

RHCR 9.30.03. DEVIATIONS AND AMENDMENTS.

Any Contractor-initiated amendments to the SWPPP materials that deviates from the NYSDEC technical standard and/or the NYCDEP Stormwater Design Manual must have a section justifying any non-conformance. The justification must include, but not be limited to, the following:

a. Statement of each deviation from City and State requirements;

b. Statement of the reasons for each deviation and reasons for supporting adopted alternatives;

c. Provide information which demonstrates that the deviation or alternative design is equivalent to the Technical Standards and the Stormwater Design Manual;

d. Analysis of the water quality impacts; and,

e. Determination of no-net-increase changes, if applicable.

The Contractor must maintain the SWPPP current and have the Qualified Inspector amend the SWPPP whenever:

1. There is a significant change in construction or operation which may have a significant effect on the potential for the discharge of pollutants to the waters of the New York State and which has not otherwise been addressed in the SWPPP; or,

2. The SWPPP proves to be ineffective in:

a) Eliminating or significantly minimizing pollutants generated from sources identified in the SWPPP as required by this general permit, or

b) Achieving the general objectives of controlling pollutants in stormwater discharges from permitted construction activities.

Additionally, the SWPPP must be amended to identify any new Contractor or Sub-contractor that will implement any measures of the SWPPP. Any Contractor-initiated amendments to the SWPPP shall be made at no additional cost to the City.

RHCR 9.30.04. CERTIFICATION.

The SWPPP must clearly identify the Contractor and Sub-contractors that will implement each measure identified in the SWPPP. The Contractor and all Subcontractors identified in the SWPPP and who perform professional services at the site must implement the provisions of the plan and provide certification of the SWPPP in accordance with the provisions of the general permit GP-0-20-001 and the SCP The Contractor must also certify in the SWPPP that all appropriate stormwater and erosion control measures will be in place before commencement of construction of any segment of the project that requires such measures. Such certifications must become part of the SWPPP for the construction activity covered under this general permit. The Certification must include the name and title of the person providing signature of this permit; the name address and telephone number of the contracting firm; the address or other identifying description of the site; and the date the certification is made.

RHCR 9.30.05. SITE ASSESSMENT, INSPECTION AND MAINTENANCE.

The Contractor must have the Qualified Inspector conduct an assessment of the site prior to commencement of construction and certify in an inspection report that the appropriate erosion and sediment controls described in the SWPPP have been adequately installed or implemented to ensure overall preparedness of the site before the commencement of construction. Following the commencement of construction, site inspections must be conducted by the Qualified Inspector at least every seven (7) calendar days and within twenty-four (24) hours of the end of each rainfall event of 0.5 inches or greater. For construction sites where soil disturbance is greater than five (5) acres at one time, the Qualified Inspector must conduct at least two (2) site inspections every seven (7) calendar days and within twenty-four (24) hours of the end of each rainfall event of 0.5 inches or greater and any additional inspections as required by NYSDEC or NYCDEP. The two inspections must be separated by a minimum of two (2) full calendar days. Subsequent to each inspection, the Qualified Inspector must prepare an inspection report and submit the original to the Resident Engineer and one copy to the Infrastructure-Engineering Support Unit. At a minimum, the inspection report must include, but not limited to, the following information:

1. Date and Time of inspection;

2. Name and Title of person performing the inspection;

3. A description of the weather and soil conditions (e.g. dry, wet, saturated) at the time of the inspection;

4. A description of the condition runoff at all points of discharged from the construction site. This must include identification of any discharges of sediment from the construction site;

5. A description of the condition of all-natural surface waterbodies located within or immediately adjacent to the properties boundaries of the construction site which receive runoff from disturbed areas. This must include identification of any discharges of sediment to the surface waterbody;

6. Record of any evidence of soil erosion on the site, potential for pollutants entering the drainage systems, problems at discharge points (such as turbidity in receiving water) and signs of soil and mud transport from the site to the public road at the limits of the project;

7. Identification of all erosion and sediment control practices that need repair or maintenance;

8. Identification of all erosion and sediment practices that were not installed properly or are not functioning as designed and need to be reinstalled or replaced;

9. Description and sketch of areas that are disturbed at the time of the inspection and areas that have been stabilized (temporary and/or final) since the last inspection;

10. Corrective actions that must be taken to install, repair, replace or maintain erosion and sediment control practices; and to correct deficiencies identified with the construction of post-construction stormwater management practices;

11. Digital photographs, with date stamp, that clearly show the condition of all practices that have been identified as needing corrective actions. The Qualified Inspector must attach paper colorcopies of the digital photographs to the inspection report. He must also take digital photographs with date stamp, that clearly show the conditions of the practice(s) after the corrective actions has been completed;

12. Within one business day of the completion of an inspection, the Qualified Inspector must notify the Contractor and the Resident Engineer of any corrective actions that need to be taken. The Contractor must begin implementing the corrective actions within one business day of this notification; and,

13. All the inspection reports must be signed by the Qualified Inspector.

The Contractor must retain a signed copy of the General Permit GP-0-20-001, NOI, SWPPP, signed MS4 SWPPP Acceptance form, NOI Acknowledgment Letter, the SCP, and all original inspection reports required by this general permit at the construction site in a prominent place for public viewing from the date of initiation of construction activities to the date of final stabilization and the Notice of Termination (NOT) has been submitted to the NYSDEC and NYCDEP. These documents must be made available to the permitting authority upon request. Prior to starting construction, the Contractor must certify in the site logbook that the SWPPP was prepared in accordance with the requirements of the permit and it meets all federal, state and local erosion and sediment control requirements.

In addition, the Contractor and Subcontractors must identify at least one person who is an employee of the company that will be responsible for a day-to-day implementation of the SWPPP. The name and telephone number of this person should be listed in the SWPPP. This person must be known as the Trained Contractor and must have received a DEC-endorsed four (4) hours of Erosion and Sediment Control training. After receiving the initial training, the Trained Contractor must attend a four (4) hour training every three (3) years. The Contractor must ensure that at least one Trained Contractor is on site on a daily basis when soil disturbance activities are being performed.

Performing implementation of a SWPPP on a permitted construction project without a Trained Contractor on site daily is a violation of Part III.A.6 of the SPDES General Permit. Stormwater controls must be maintained in good operating condition until all disturbed soils are permanently stabilized. Control devices in need of repair should be repaired promptly after identification.

Once construction is completed, the Contractor must submit the NYSDEC Notice of Termination (NOT) to DEP for the MS4 acceptance signature. If required, the Contractor shall prepare a Stormwater Maintenance Permit application consisting of the NOT, as-built plan(s), operation and maintenance manual that designates the entity responsible for long term maintenance of SMPs, and any required fees as specified in the NYCDEP MS4 Stormwater Rule. NYCDEP may inspect the SMP(s) at any time and any deficiencies must be resolved by the Contractor at no additional cost to the City. Prior to filing of the Notice of Termination (NOT), or at the end of the permit term, the Contractor must have the Qualified Inspector perform a final site inspection. The Qualified Inspector must certify that the site has undergone final stabilization using either vegetative or structural stabilization methods and that all temporary erosion and sediment controls (such as silt fencing) not needed for long term erosion control have been removed. Subsequently, the Contractor must submit a complete NOT to the Engineering Support Unit to terminate the permit coverage.

Additionally, the Qualified Inspector must identify all permanent Stormwater management structures that have been constructed and provide the owner(s) of such structures with a manual describing the operation and maintenance practices that will be necessary in order for the structures to function as designed after the site has been stabilized.

The Qualified Inspector must also certify that the permanent structures have been constructed as described in the SWPPP.

RHCR 9.30.06. STABILIZATION.

The Contractor must initiate stabilization measures by the end of the next business day in areas of the site where construction activities have temporarily or permanently ceased, and completed within fourteen

(14) days from the date the current soil disturbance activity ceased. For construction sites that directly discharge to one of the 303(d) segments listed in the Appendix E of the General SPDES permit, the application of soil stabilization measures must be initiated by the end of the next business day and completed within seven (7) days from the date the current soil disturbance ceased.

RHCR 9.30.07. CONTRACTOR'S LIABILITY.

The Contractor must be liable for any discharge that either causes or contributes to a violation of water quality standards as contained in Parts 700 through 705 of Title 6 of the Official Compilation of Codes, Rules and Regulations of the State of New York. Should any stormwater runoff from the site violate the water quality standards, the Contractor will be directed to take immediate steps, at the Contractor's own expense, to rectify the situation and prevent any further sediment from entering the storm sewer system.

In the event that pollutants are discharged to the stormwater system due to the Contractor's negligence, the Engineer will direct the Contractor to cease any or all construction activities contributing to the release of these pollutants. The Contractor must be held responsible, at the Contractor's own cost, for any and all necessary actions to remedy the damage.

Furthermore, failure of the Contractor and Sub-contractor(s) to strictly adhere to any permit requirements must constitute a permit violation that could result in substantial criminal, civil, and administrative penalties.

It is the Contractor's responsibility to pay all the SPDES permit fees which must consist of the yearly regulatory fee, the initial authorization fee per acre of land disturbed and per acre of future impervious area. The Contractor must be liable for all penalties incurred due to the Contractor's failure to pay these fees on time.

RHCR 9.30.08. MEASUREMENT AND PAYMENT.

Payment will be made at the lump sum price bid for the item Stormwater Pollution Prevention, which must include, but not be limited to, the cost of furnishing all the labor, materials, fees, permits and testing required to provide and construct all erosion and sediment control devices in accordance with the approved SWPPP; providing a Qualified Inspector to design, report, inspect and monitor the work; comply with NYSDEC and NYCDEP permitting requirements and all necessary incidentals to complete the work all in accordance with the specifications and the directions of the Engineer.

Ten percent (10%) of the lump sum price bid will be paid when both NYSDEC and NYCDEP have issued a permit identification number and SCP for the project, respectively.

Seventy percent (70%) will be paid in proportion to the percentage of construction completion.

Twenty percent (20%) will be paid when the operation is demobilized and removed from the site, the Notice of Termination (NOT) is filed with NYSDEC and all SPDES permit fees have been paid.

Payment will be made under:

Item No.	Item	Pay Unit
RHCR-9.30	STORMWATER POLLUTION PREVENTION	L.S.

END OF SECTION

THE SECTION BELOW SUPERSEDES AND REPLACES SECTION GI-2.07 OF NYC DEP STANDARD GREEN INFRASTRUCTURE SPECIFICATIONS DATED AUGUST 1, 2024

SECTION GI-2.07 — CLEAN OPEN GRADED STONE

GI-2.07.01 INTENT

This section describes the types of clean open graded stone also described as stone cover or open-graded stone base for the installation of flip-up drainage pipes, infiltration basins, planter drywells, and other miscellaneous drainage installations.

All materials for this work must comply with the latest New York State Department of Transportation, Standard Specifications, Coarse Aggregate, Section 703-02. The stone must be washed and 3/4" and 3" to 4" in sizes.

The thicknesses and locations of the "clean open-graded stone" must be as shown on the Contract Drawing Details or as determined by field conditions and ordered by the Engineer.

GI-2.07.02 MATERIALS

Use of screened rounded gravel is prohibited.

All Clean open graded stone material acceptable under this section must be sound, hard, durable, unweathered stone freshly broken. All open graded stone must be double-washed and clean and free of all fines and debris, not contaminated with clay, and free from any organic or other deleterious material.

TABLE 1 – SIZES OF STONE

Size	Nominal Size	US Standard Sieve Sizes (Percent Passing)												
		4 in	3½ in	3 in	2½ in	2 in	1½ in	1 in	¾ in	½ in	3/8 in	No. 4	No. 8	No. 16
A	3/8 in. to No. 8	-	-	-	-	-	-	-	-	100	85 to 100	10 to 30	0 to 10	0 to 5
B1	¾ in.	-	-	-	-	-	-	100	0 to 15	-	-	-	-	-
B2	¾ in. to 3/8 in.	-	-	-	-	-	-	100	90 to 100	20 to 55	0 to 15	0 to 5	-	-
C	1½ in.	-	-	-	-	100	0 to 15	-	-	-	-	-	-	-
D	3 in. to 4 in.	100	90 to 100	0 to 15	-	-	-	-	-	-	-	-	-	-

Clean Open Graded Stone of all types must be aggregate size per Table #1. Thickness, Widths and all dimensions must be as shown on the standard details and Contract Drawings or as otherwise directed by the Engineer. All open graded stone must be properly compacted. The types of aggregate use for each Green Infrastructure use will be as per the following.

TABLE 2 - Types of default clean open graded stone choices unless otherwise specified on drawings or as directed by the Engineer:

Stone Size	Use	Course
A	n/a	
B1	Infiltration Basins	Leveling Course
B2	n/a	
C	n/a	
D	Infiltration Basins	Reservoir Base
	Drywell for Planters	n/a

GI-2.07.03 SUBMITTALS

A. The Contractor, prior to the start of work, must submit to the Engineer for approval samples of the clean open graded stone that have been sampled in accordance with the requirements of ASTM D 75. The minimum size of sample must be in accordance with the requirements of ASTM D 75 – TABLE 1 Minimum size of Field Samples.

B. Certified material test reports showing that the clean open graded stones meet the specified requirements must be submitted for each shipment and identified with specific lots prior to installing materials. Clean open graded stones used in the Work must conform to the approved samples.

C. The manufacturer must submit certified test date to cover each shipment of the material.

D. Results of the coarse aggregate gradation analyses, with full reporting of all information in AASHTO sieve sizes, in accordance with the ASTM C 136.

E. Results of the void-ratio analyses, with full reporting of all information, in accordance with the ASTM C 29.

GI-2.07.04 CONSTRUCTION METHODS

A. Weather Consideration

1. Do not place and/or compact clean open graded stone subbase in rain or snow, or on saturated or frozen subgrade.
2. Do not place and/or screed clean open graded stone base in rain or snow, or on saturated or frozen subbase.

B. Stockpiling and Sampling of clean open graded stone Reservoir and Leveling Course Aggregate

1. All material must be stockpiled, unless otherwise directed. Stockpile construction requirements, sampling, testing and acceptance/rejection procedures must be as stipulated in the New York State Department of Transportation Section 703-02 – Coarse Aggregates.
2. No material must be added to a stockpile after the stockpile has been sampled for approval. Only material from approved stockpiles must be placed on the subgrade for this section. The presence of any oversize particles in the stockpile will be cause for rejection of the entire stockpile. No material must be removed for use from any stockpile until the stockpile has been sampled, tested, and approved in writing, by the Engineer, for placement on the subgrade. It must be the duty of the Contractor to furnish suitable and approved excavating equipment for such sampling. Approval of a stockpile for placement on the subgrade must not relieve, in any degree, the full responsibility of the Contractor to furnish, in its compacted position, a subbase course of select granular materials, the final condition of which conforms to all the requirements of the specifications for this section. In the event the Contractor must have a plant or procedure resulting in subbase course material of uniform quality, at a rate satisfactory to the Engineer,

and such that satisfactory samples for tests can be obtained, the requirement for stockpiling may be waived. Prior approval of the Engineer must be obtained, and the Work must be done in accordance with such conditions as may be imposed in the approval. Such waiver must remain in force only so long as a satisfactory material is produced.

C. Subgrade Preparation

1. The Subgrade Under The Clean Open Graded Reservoir Course (Sub Base) must not be compacted or permanently covered with geotextile, unless otherwise shown on the Contract Drawings or directed by the Engineer.
2. Prepared subgrades must not be subject to construction equipment traffic.
3. Where erosion has caused accumulation of sediment or ponding on the subgrade, remove sediment with light equipment and/or manually. Scarify the underlying soils to a minimum depth of 6 inches with a York type rake, or equivalent equipment.
4. Restore any subgrade areas damaged by erosion, ponding, or traffic compaction to design line and grades prior to installation of storage reservoir course (layer).

D. Installation of Reservoir Course (Subbase)

1. The Reservoir Course Subbase will be installed per specification to the thicknesses and width shown on the Contract Drawings and as directed by Engineer.
2. Place 1-1/2" (nominal) size open graded stone, over the prepared subgrade and spread and level evenly by raking to the dimensions shown on the Contract drawing details. Do not disturb prepared subgrade or shift, wrinkle or fold the geotextile fabric and/or impermeable liner when and where place as shown on the Contract Drawings.
3. The open graded stone reservoir course material must be spread in equal thickness layers. The spreading of any layer of this material must be done with spreader equipment approved by the Engineer, and to such thickness that the maximum depth of the layer, after compaction, will be 6 inches. Spreading from piles dumped on the roadway will not be permitted. No segregation of large or fine particles will be allowed, but the material, as spread, must be well graded, with no pockets of fine material. Water must be added in such amounts as the Engineer may consider necessary to obtain satisfactory compaction.
4. Compact layers with an approved vibrating plate compactors or impact rammers until there is no visible movement, weaving or deflection in the surface of the clean open graded stone reservoir course. All the equipment must be approved by Engineer with regards to adjacent structures.
5. The surface tolerance of the compacted clean open graded stone reservoir course must be + 3/4 in. under a 10-ft straightedge.
6. The Contractor must assume full responsibility for any contamination and/or degradation of any part of this base during construction and must, at the Contractor's own expense, remove any and all portions of this base which do not conform to the requirements of these specifications and replace these portions with specified material.

E. Installation of Open Graded Stone Base

1. The Open Graded Stone Base will be installed per specification to the thicknesses and width shown on the Contract Drawings and as directed by Engineer.
2. The Open Graded Stone Base must be placed in equal thickness layers. Prior to backfilling with Open Graded Stone Base, the subgrade of the Green Infrastructure asset must be scarified to ensure no compaction. The placing of any layer of this material must be done so by gravity with no additional compaction to ensure the required void-ratio is maintained. No segregation of large or fine particles will be allowed, but the material, as placed, must be well graded, with no pockets of fine material.
3. The Contractor must assume full responsibility for any contamination and/or degradation of any part of this base during construction and must, at the Contractor's own expense, remove any

and all portions of this base which do not conform to the requirements of these specifications and replace these portions with specified material.

F. Installation of Leveling Course (Screed Base Course)

Installation of all screed leveling courses with material specified above will be installed to the thicknesses and widths shown on Contract Drawings and Standard DEP GI Details.

Before installation of leveling course verify that the open graded stone base, as shown on the Contract Drawings, has been properly placed within the trench and compacted as approved and accepted by the Engineer.

In no case must a leveling course be less than three (3”) inches thick for Precast Porous Panels and six (6”) inches thick for pavers used in the roadway.

The cost of all leveling courses must be paid per the unit price herein.

GI-2.07.05 MEASUREMENTS

The quantity of CLEAN OPEN GRADED STONE to be measured for payment must be the number of CUBIC YARDS (CY) of open graded stone incorporated in the finished work, measured in place in cubic yards. The thickness of the leveling course must NOT be included in this measurement.

GI-2.07.06 PRICE TO COVER

The Contract price bid per cubic yard of CLEAN OPEN GRADED STONE must cover the cost of all labor, materials, equipment, insurance, and necessary incidentals required to complete the Work, including, but not limited to, excavating, furnishing, and laying open graded stone, subgrade preparation, compaction and furnishing and applying water; all in accordance with the Contract Drawings, the specifications, and the directions of the Engineer.

Payment for furnishing and installing CLEAN OPEN GRADED STONE for ductile iron pipe bedding will be made under Items 50.41M6C04 and Items 50.41M6C08 in accordance with **NYCDEP Standard Specification Section 50.41**.

Payment for furnishing and installing GEOTEXTILE FABRIC FOR DRAINAGE will be made under Section. GI-2.09DR. Payment for furnishing and installing all open graded stone will be made under the following items.

Payment will be made under:

Item No.	Item	Pay Unit
GI-2.07B1	3/4” CLEAN OPEN GRADED STONE (Type B1)	C.Y.
GI-2.07D1	2”-5” CLEAN OPEN GRADED STONE (BASE)	C.Y.

END OF SECTION

THE SECTION BELOW SUPERSEDES AND REPLACES SECTION GI-2.07 OF NYC DEP STANDARD GREEN INFRASTRUCTURE SPECIFICATIONS DATED AUGUST 1, 2024

SECTION GI-2.09DR — GEOTEXTILE FABRIC FOR DRAINAGE

GI-2.09DR.01 INTENT

This section describes geotextile fabric. The Contractor must furnish and install geotextile - drainage fabric as specified herein in accordance with the Contract Drawings and as directed by the Engineer.

GI-2.09DR.02 SUBMITTALS

A. All submittals must be submitted prior to purchase and must be made in accordance with the requirements of the NYC Department of Transportation Standard Highway Specifications, General Conditions, Subsection 1.06.31.

B. Samples: The Contractor must furnish two (2) labeled samples of the geotextiles intended for use in the Work for approval and the Engineer's use. The label must include the manufacturer's product name, the type of fabric, and the weight of grade of the material. Geotextiles used in the Work must conform to the approved samples.

C. Certified laboratory test results meeting or exceeding the below criteria must be supplied with the submittal information.

GI-2.09DR.03 MATERIALS

A. Chemical and Physical Requirements

1. Drainage application is defined as a soil to geotextile system that allows for long-term, adequate liquid flow normal to the geotextile with limited soil loss across the plane of the geotextile.
2. Minimum Average Roll Value (MARV): Property value calculated as typical minus two standard deviations. Statistically, it yields a 97.7 percent degree of confidence that any sample taken during quality assurance testing will exceed value reported. Typical Roll Value is represented by (TRV).
3. Fibers used in the manufacture of drainage geotextiles, and super high-tenacity polypropylene yarns with a weave pattern to maximize strength, water flow, soil interaction and soil retention. The yarns used must consist of long-chain, synthetic polymers, composed of at least 95 percent by weight polyolefins, polyesters, or polyamides. They must be formed into a stable network such that the filaments or yarns retain their dimensional stability relative to each other, including selvages. The geotextile must have no tears or defects which adversely alter its physical properties.

Geotextiles used in drainage applications must conform to the following properties for Non-Woven Geotextile Drainage:

Property	ASTM Test	Requirements
Structure		Non-Woven
Elongation	ASTM D4595	> 50%
Grab Strength (Min.)	ASTM D4632	700N (157 LBS)
Tear Strength (Min.)	ASTM D4533	250N (56 LBS)
Puncture Strength (Min.)	ASTM D4833	250N (56 LBS)

Property	ASTM Test	Requirements
Permittivity (Min.)	ASTM D4491	0.21 / sec.
Apparent Opening Size (Max.)	ASTM D4751	0.25 mm (0.0098 inch) Std. No. 60 sieve

B. Manufacturers

Geotextiles must be as manufactured by Terrafix, Inc., Toronto, ON; by Carthage Mills, Cincinnati, OH; by Mirafi, Inc., Charlotte, NC; or approved equivalent.

GI-2.09DR.04 CONSTRUCTION METHODS

A. Each geotextile roll must be wrapped with an overlaying material that will protect the geotextile, including the ends of the roll, from damage due to shipment, water, sunlight, and contaminants. The protective wrapping must be maintained during periods of shipment and storage. During storage, geotextile rolls must be elevated off the ground and adequately covered to protect them from the following: site construction damage, precipitation, extended ultraviolet radiation including sunlight, chemicals that are strong acids or strong bases, and any environmental condition that may damage the physical property values of the geotextile.

B. OPEN GRADED STONE BASE: The non-woven geotextile fabric must be placed on the sides of the open graded stone base, where it abuts either existing soil under the roadway or sidewalk and at the top of the open graded stone base where it abuts the engineered soil and sand. Prior to placement of the non-woven geotextile fabric, the area must be free of stumps and other organic material, along with any large boulders or sharp objects which may tear or damage the fabric. The drainage non-woven geotextile must be placed loosely with no wrinkles or folds. Overlap non-woven geotextile edges a minimum of 12 inches in the direction of drainage flow. Care will be taken to place the non-woven geotextile in intimate contact with the soil so that no void spaces occur between the non-woven geotextile and trench or ground. If the non-woven geotextile is damaged during installation, the rupture must be removed, and the damaged area must be covered with a patch of new fabric which will overlap the undamaged fabric with twelve (12”) inches in all directions. The Contractor must make such repair work as directed by Engineer at no extra cost to the City.

Overlaying material must be placed within the same work shift whether the fabric is subject to damage from sunlight or not.

C. HDPE Piping: The non-woven geotextile fabric must be wrapped around the perforated/slotted HDPE pipe. Prior to placement of the non-woven geotextile fabric, the area must be free of stumps and other organic material, along with any large boulders or sharp objects which may tear or damage the fabric. The drainage non-woven geotextile must be wrapped around the perforated/slotted HDPE pipe prior to placing the non-woven geotextile wrapped perforated/slotted HDPE pipe into the trench. Overlap non-woven geotextile edges a minimum of 12 inches in the direction of drainage flow. If the non-woven geotextile is damaged during installation, the rupture must be removed, and the damaged area must be covered with a patch of new fabric which will overlap the undamaged fabric with twelve (12”) inches in all directions. The Contractor must make such repair work as directed by Engineer at no extra cost to the City

GI-2.09DR.05 MANUFACTURER

A. Terrafix® Geosynthetics Inc. (Nonwoven only)
455 Horner Avenue
Toronto, ON M8W 4W9
E-mail: info@terrafixgeo.com
Phone: (416) 674-0363
http://terrafixgeo.com/contact/

B. Carthage Mills
4243 Hunt Road
Cincinnati, OH 45242
Phone: (513) 794-1600
https://carthagemills.com/

C. TenCate Geosynthetics Americas (Mirafi)
365 South Holland Drive
Pendergrass, Georgia 30567
Tel: +1 706-693-2226
Email: spec@tencategeo.com
https://www.tencategeo.us/

D. Or approved equal.

GI-2.09DR.06 MEASUREMENT

The quantity of GEOTEXTILE FABRIC to be measured for payment must be the number of SQUARE YARDS actually installed at the site, in its final position, to the satisfaction of the Engineer. No quantity will be included for material used for repair of tears or for material used to provide the overlaps.

GI-2.09DR.07 PRICE TO COVER

The unit price bid per SQUARE YARD for GEOTEXTILE FABRIC must cover the cost of furnishing all labor, material, equipment, insurance, submittals, and incidental expenses required to complete the Work; all in accordance with the Contract Drawings, the specifications and directions of the Engineer.

Payment for the following will be made under other Contract items: Clean Open Graded Stone Base. Payment for furnishing and installing GEOTEXTILE FABRIC for HDPE PIPE will be made under item High Density Polyethylene (HDPE) Pipe (**GI-2.16FPA**).

Payment will be made under:

Item No.	Item	Pay Unit
GI-2.09DR-NW	NON-WOVEN GEOTEXTILE FABRIC FOR DRAINAGE	S.Y.

END OF SECTION

THE SECTION BELOW SUPERSEDES AND REPLACES SECTION GI-2.07 OF NYC DEP STANDARD GREEN INFRASTRUCTURE SPECIFICATIONS DATED AUGUST 1, 2024

SECTION GI-2.16 — HIGH DENSITY POLYETHYLENE (HDPE) PIPE

GI-2.16.01 INTENT

This section describes High Density Polyethylene (HDPE) pipe, fittings, flanges, unions, couplings, as specified in the Contract Drawings. Furnish and install all HDPE pipe and fittings in accordance with the specifications, the manufacturers' recommendations, and as directed by the Engineer.

GI-2.16.02 REFERENCES

A. HDPE pipe must conform to the latest standards of the American National Standards Institute (ANSI), the American Society for Testing and Materials (ASTM), the American Water Works Association (AWWA) and the National Sanitation Foundation (NSF).

B. HDPE pipe and fittings must conform to the following ASTM and AASHTO standards:
   1. ASTM D3212 - Standard Specification for Joints for Drain and Sewer Plastic Pipes Using Flexible Elastomeric Seals
   2. ASTM D3350 - Standard Specification for Polyethylene Plastics Pipe and Fittings Materials
   3. AASHTO M 252 - Standard Specification for Corrugated Polyethylene Drainage Pipe
   4. ASTM D1248 - Standard Specification for Polyethylene Plastics Extrusion Materials for Wire and Cable
   5. ASTM D7001 - Standard Specification for Geocomposites for Pavement Edge Drains and other High-Flow Applications
   6. ASTM D2321 - Standard Practice for Underground Installation of Thermoplastic Pipe for Sewers and Other Gravity-Flow Applications

GI-2.16.03 SUBMITTALS

Submit catalog data for pipe, couplings, and other appurtenances.

GI-2.16.04 CHEMICAL AND PHYSICAL REQUIREMENTS

A. The pipe must be as uniform as commercially practicable in color, capacity, density, and other physical properties.

B. The pipe must be manufactured from high density polyethylene resin in accordance with ASTM D3350 and PPI TR4. The pipe must conform to cell classification PE424420C for PE42 under ASTM D 3350. The pipe material must conform to the following cell classification requirements:

Property	Value	ASTM Test Procedure Designation
Density	0.955 gm/cm^3	D 1505
Melt Flow Index	1.0	D 1238
Flexural Modulus	80,000 psi	D 790
Tensile Strength @ Yield	3,200 psi	D 638
ESCR	Max Failure = 50%	D1693
Hydraulic Design Basis	Not Pressure Rated	D 2837
UV Stabilizer	C, Black with 2-3% carbon black	D 3350

C. The pipe must contain no recycled materials or compounds.

D. HDPE pipe must be marked either continuously or on intervals not to exceed five (5) feet by indirect printing with the following information:

1. Name and/or trademark of the manufacturer.
2. Nominal pipe size.
3. Dimension Ratio (DR).
4. The letters PE followed by the polyethylene grade per ASTM D 1248, followed by the Hydrostatic Design Basis.
5. Manufacturing Standard Reference.
6. Production Code from which time and date of manufacture can be determined.

E. Visible defects, such as cracks, creases, crazing, non-uniformly pigmented areas or undispersed raw materials must not be acceptable and will result in rejection of the pipe by the Engineer.

F. HDPE fittings must be manufactured to the requirements of ASTM D 3212 and this Specification. Fabricated fittings must be pressure rated to match the system piping.

GI-2.16.05 MANUFACTURERS

A. Advanced Drainage Systems, Inc. (ADS)
4640 Trueman Blvd. Hilliard, OH 43026
1-800-821-6710
http://www.ads-pipe.com

B. Hancor, Inc.
12370 Co Rd. #172
Findlay, OH 45840
1-888-367-7473
http://www.hancor.com

C. LANE Enterprises, Inc.
3905 Hartzdale Drive, Suite 514
Camp Hill, PA 17011
717-761-8175
www.lane-enterprises.com

D. Or Approved Equivalent.

GI-2.16.06 CONSTRUCTION METHODS

A. Utilize care when lowering unit into the trench. Handle using nylon slings and two pick points.

B. When the unit consists of two sections, place the downstream section first. Properly lube the bell and spigot to connect and home the remaining section.

C. All connections to manholes should be grouted and water/soil tight.

D. Only use couplings to join standard lengths of pipe and as required to complete a straight run of pipe. Do not use couplings to join random lengths of pipe and cuttings from standard lengths.

E. Use reducing fittings for all changes in pipe size. Do not use bushings.

F. During construction, keep the lines free from foreign matter. The piping must be left thoroughly clean to the satisfaction of the Engineer.

GI-2.16.07 MEASUREMENT

The quantities to be measured for payment under these Items must be the number of linear feet (installed length) of each type HDPE PIPE actually placed in their final position, to the satisfaction of the Engineer, measured horizontally or vertically along the centerline of pipe and fittings as installed.

GI-2.16.08 PRICES TO COVER

The price bid for each type of HDPE PIPE must be a unit price per linear foot and must cover the cost of all labor, materials, equipment, insurance, and incidentals necessary to complete the work of furnishing and installing HDPE Pipe, including, but not limited to, excavating, furnishing and installing fittings, flanges, unions, couplings, end caps, sand, and cleanouts including covers, and excavation, connecting and joining pipe to other pipes or drainage structures; and furnishing and wrapping geotextile fabric for drainage around perforated/slotted HDPE pipe; all in accordance with the Contract Drawings, the specifications and directions of the Engineer.

Payment will be made under:

Item No.	Item	Pay Unit
GI-2.16FPA	FULL PERFORATED HDPE PIPE (8” DIA.)	L.F.
GI-2.16SA	SOLID HDPE PIPE (8” DIA)	L.F.

END OF SECTION

THE SECTION BELOW SUPERSEDES AND REPLACES SECTION GI-2.07 OF NYC DEP STANDARD GREEN INFRASTRUCTURE SPECIFICATIONS DATED AUGUST 1, 2024

SECTION GI-2.16A — PVC PIPE

GI-2.16A.01 INTENT

This section describes Polyvinyl Chloride (PVC) pipe, fittings, flanges, unions, couplings, as required for a complete installation of drywells for existing planters and other miscellaneous drywells as shown on the Contract Drawings. Furnish and install all PVC pipe and fittings in accordance with the specifications, the manufacturers' recommendations, and approved shop drawings.

GI-2.16A.02 REFERENCES

A. PVC pipe must conform to the latest standards of the American National Standards Institute (ANSI), the American Society for Testing and Materials (ASTM), the American Water Works Association (AWWA) and the National Sanitation Foundation (NSF).

B. PVC pipe, gasket, and fittings must conform to the following ASTM and AASHTO standards:

1. ASTM D3034 - Standard Specification for Type PSM Poly (Vinyl Chloride) (PVC) Sewer Pipe and Fittings
2. ASTM D1784 - Standard Specification for Rigid PVC Compounds and CPVC Compounds
3. ASTM D2412 - Standard Test Method for Determination of External Loading Characteristics of Plastic Pipe by Parallel – Plate Loading
4. ASTM D3212 - Standard Specification for Joints for Drain and Sewer Plastic Pipes Using Flexible Elastomeric Seals
5. ASTM D2321 - Standard Practice for Underground Installation of Thermoplastic Pipe for Sewers and Other Gravity-Flow Applications
6. ASTM D2152 - Standard Test Method for Adequacy of Fusion of Extruded PVC Pipe and Molded Fittings by Acetone Immersion

GI-2.16A.3 SUBMITTALS

Submit catalog data for pipe, couplings, and other appurtenances.

GI-2.16A.04 CHEMICAL AND PHYSICAL REQUIREMENTS

A. The pipe must be as uniform as commercially practicable in color, capacity, density and other physical properties.

B. The pipe must be manufactured from high density polyethylene resin in accordance with ASTM D3350 and PPI TR4. The pipe must conform to cell classification PE424420C (ESCR Test Condition B) for 4- through 10-inch diameters, and 435420C (ESCR Test Condition B) for 12- through 60-inch diameters, as defined and described in the latest version of ASTM D3350, except that carbon black content should not exceed 4%. The pipe material must conform to the following cell classification requirements:

Property	Value	ASTM Test Procedure Designation
Base Resin	PVC homopolymer	D 4216
Notched Izod	0.65 ft-lb/in	D 256
Tensile Strength	5,000 psi	D 638
Tensile Modulus	400,000 psi	D 638
DTUL @ 264 psi	154° F	D 648

C. The pipe must contain no recycled materials or compounds.

D. PVC pipe must be marked either continuously or on intervals not to exceed five (5) feet by indirect printing as specified in ASTM D1785

1. Name and/or trademark of the manufacturer.
2. Nominal pipe size.
3. Material designation code
4. Dimension Ratio (DR).
5. Manufacturing Standard Reference.
6. Production Code from which time and date of manufacture can be determined.

E. Visible defects, such as cracks, creases, crazing, non-uniformly pigmented areas or undispersed raw materials must not be acceptable and will result in rejection of the pipe by the Engineer.

F. PVC fittings must be manufactured to the requirements of ASTM D 3212 and this Specification. Fabricated fittings must be pressure rated to match the system piping.

GI-2.16A.05 MANUFACTURERS

A. Advanced Drainage Systems, Inc. (ADS)
4640 Trueman Blvd. Hilliard, OH 43026
http://www.ads-pipe.com

B. Hancor, Inc.
12370 Co Rd. #172
Findlay, OH 45840
http://www.1r.com

C. Royal Municipal Solutions
131 Regalcrest Court
Woodbridge, ON L4L 8P3
http://www.royalbuildingproducts.com/

D. National Pipe & Plastics, Inc.
3421 Vestal Road
Vestal, NY 13850
http://www.nationalpipe.com/

E. Or Approved Equal

GI-2.16A.06 METHODS

A. Utilize care when lowering unit into the trench. Handle using nylon slings and two pick points.

B. When the unit consists of two sections, place the downstream section first. Properly lube the bell and spigot to connect and home the remaining section.

C. Use only couplings to join standard lengths of pipe and as required to complete a straight run of pipe. Do not use couplings to join random lengths of pipe and cuttings from standard lengths.

D. During construction, keep the lines free from foreign matter. The piping must be left thoroughly clean to the satisfaction of the Engineer.

GI-2.16A.07 MEASUREMENT AND PAYMENT

The quantities to be measured for payment under these Items must be the number of linear feet (installed length) of each type PVC PIPE actually placed in their final position, to the satisfaction of the Engineer, measured horizontally or vertically along the centerline of pipe and fittings as installed.

GI-2.16A.08 PRICES TO COVER

The price bid for each type of PVC PIPE must be a unit price per linear foot and must cover the cost of all labor, materials, equipment, insurance, and incidentals necessary to complete the work of furnishing and installing PVC Pipe, including, but not limited to, excavating, furnishing and installing fittings, unions, couplings, end caps, backfill, excavation, and temporary pavement, cutting existing pipes, connecting and joining pipe to other pipes or drainage structures; all in accordance with the Contract Drawings, the specifications and directions of the Engineer. Drywell broken stone, filter fabric, drainage mat and permanent landscape paving shall be paid for under separate items as per Contract Drawings.

Payment will be made under:

Item No.	Item	Pay Unit
RHCR-PK-PVC06	PVC PIPE FOR DRAINAGE (6” DIA.)	L.F.

END OF SECTION

SECTION 7.14 – SUSTAINABLE CONSTRUCTION

7.14.1 DESCRIPTION.

The intent of this specification is to encourage sustainable construction planning as well as to compensate the Contractor for implementing strategies. The Contractor is advised that significant effort is required in order to earn the maximum incentive.

If the Contractor chooses to exceed those industry wide baseline the Contractor may be eligible for an incentive payment, as set forth in Subsection 7.14.4.

All requirements of this section must be outlined and coordinated in the Contractor's Sustainable Construction Work Plan (SCWP).

7.14.2 MATERIALS.

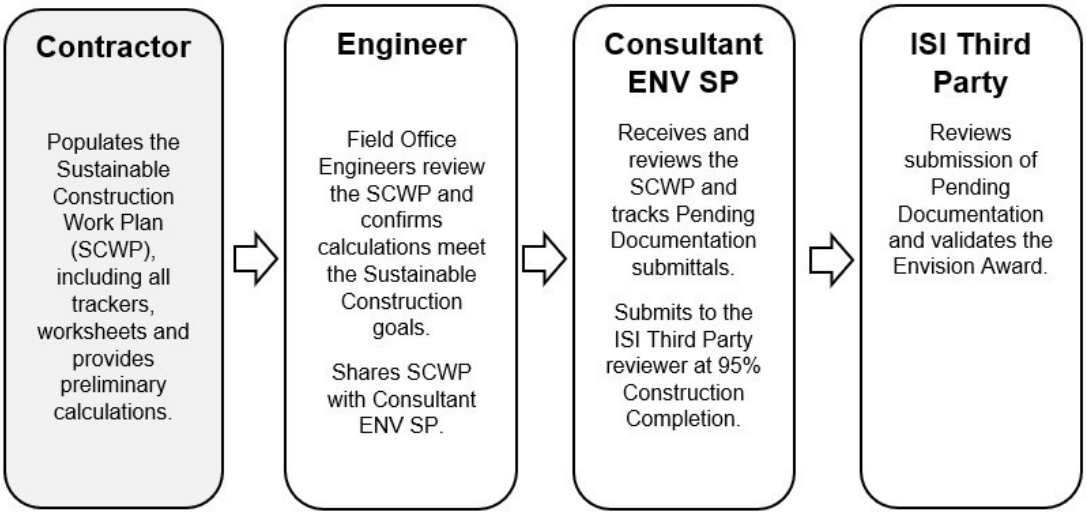
Not used.

7.14.3 METHODS.

A. SUSTAINABLE PLANNING

1. COLLABORATION.

The Contractor must attend all meetings required to discuss and comprehend the Institute for Sustainable Infrastructure's Envision framework, including but not limited to the Envision Construction Kick-Off Meeting and regular Sustainability Check-Ins for execution of each Provision along with the various sections of the overarching Sustainable Construction Work Plan (SCWP) For more information visit https://sustainableinfrastructure.org/



Sustainable Construction Work Plan (SCWP)			
Sub-Section	**SUSTAINABLE CONSTRUCTION GOAL**	**DUE**	**DELIVERABLE**
7.14.3.**B**	INITIAL DOCUMENTATION	Within Thirty (30) Days of Notice of Award	**Construction Pending Documents Tracker (CPDT)**
7.14.3.**C**	PLANNING & SUBSEQUENT DOCUMENTATION	Within Thirty (30) Days of Issuance of The NTP Letter	**Construction Management Plan (CMP)**
7.14.3.5	SUSTAINABLE PROCUREMENT		
7.14.3.8	STAKEHOLDER RELATIONS DURING CONST		
7.14.3.7.2	ENHANCED CONSTRUCTION HEALTH AND SAFETY	Within Thirty (30) Days of Issuance of The NTP Letter	**Feedback Mechanisms Planning & Tracker Worksheet**
7.14.3.8.4	STAKEHOLDER RELATIONS DURING CONSTRUCTION		
7.14.3.6	CONSTRUCTION WASTE MANAGEMENT	Within sixty (60) days of NTP	**Construction Waste Management Planning Worksheet (CWMP)**
7.14.3.10	SURFACE AND GROUNDWATER QUALITY	Within sixty (60) days of NTP	**Surface and Groundwater Quality Planning Worksheet (SGQP)**

2. INITIAL DOCUMENTATION.

This section is to provide sustainable construction requirements, including required documentation. The City will use the Contractor's documentation to finalize the awarded Envision certification. There are already requirements in the contract that have been evaluated and assessed to ensure that the planned Envision certification is met.

Within thirty (30) days of Notice of Award, the Contractor must submit to the Engineer the Construction Pending Documents Tracker (CPDT) for approval. The Contractor must assign a point of contact responsible for tracking and submitting all necessary materials and documentation which may include, but are not limited to: meeting minutes, reports, plans, data compilations, delivery tickets, calculations, manuals, policies, estimates, etc. Calculations will be necessary to ensure the awarded Envision verification level is upheld. See Appendix 7.14.A. There is no incentive to this scope; these are baseline standard required documentation.

3. PLANNING & SUBSEQUENT DOCUMENTATION.

Minimum Required Implementation:
Approved Construction Pending Documents Tracker

The Contractor must reference these requirements in conjunction with the noted Envision Award Level of the project to meet the anticipated levels of achievement through development and logistics. Within thirty (30) days of receipt of the NTP Letter, the Contractor must submit for approval to the Engineer their Construction Management Plan, outlining implementation strategies. The Contractor must conduct at least one (1) Sustainable Construction Planning Review before construction commencement to review, analyze and select strategies as listed in the Provisions. See Appendix 7.14.B.

Calculations may be necessary to ensure the awarded Envision verification level is upheld.

There are nine other major scopes of sustainable construction. The strategies listed exceed the baseline minimums that are already part of the Contract:

Minimum Required Implementation:
Approved Construction Management Plan

B. CONSTRUCTION ENERGY CONSERVATION.

The project team, including contractor and sub-contractors, must conduct one or more planning reviews to identify and analyze strategies for reducing energy consumption during construction.

To reduce energy, fuel consumption, greenhouse gases, and air pollutant emissions during construction, the Contractor must endeavor to implement the following strategies, including, but not limited to:

1. At least 20% of the construction equipment must be electric.
2. Where electric equipment is not available, biofuels and biodiesel equipment should be prioritized. Use alternative fuels in heavy equipment for at least 5% of total fuel consumption.
3. Where electric nor biofuel/biodiesel equipment are available; use Tier IV construction equipment or Tier III with Best Available Technology (BAT) for at least 75% of non-road equipment fleet greater than 50 horsepower.
4. Hybrid or fully electric project vehicles for at least 50% of fleet.
5. Employee commuting programs with incentives (shuttles to transit, ride-share programs, biking facilities, etc.).
6. Offset electrical consumption by generating 5% renewable energy on site (e.g., solar-powered temporary light plant, cameras, and variable message sign boards).
7. Reduce fuel consumption during construction by 10% using any of the following strategies, including, but not limited to:

    - Reduce fuel consumption during construction by 10% by reducing the number of deliveries
    - Reduce fuel consumption during construction by 10% by not exceeding the NYC idle times code
    - On-site reuse of soils or other materials to decrease truck traffic to and from site
    - Reduce on-site trucking, proper logistics planning such as staging material in close proximity to installation location
    - Schedule acceleration without additional resource consumption
    - Use waterborne and/or rail transportation of materials versus trucking (third-party distribution or logistics)
    - On-site plants (concrete plant/asphalt plant) in lieu of trucking material to the site
    - Prefabrication of design elements

The Contractor is encouraged to propose innovative measures for reduced fuel consumption.

Minimum Required Implementation: 2 to 3 of the above 7 strategies.

C. CONSTRUCTION WATER CONSUMPTION.

The Contractor must plan towards using no potable water during construction, except for human consumption and hygiene. The project team, including contractor and sub-contractors, must conduct one or more planning reviews to identify and analyze strategies for reducing water consumption during construction.

To reduce potable water consumption during construction, the Contractor must prepare preliminary calculations to the Engineer and endeavor to implement the following strategies, including, but not limited to:

1. Monitoring and management of potable water to demonstrate ability to detect leaks and respond to inefficiencies in the system.

2. Reduce embodied water of materials by using recycled materials, demonstrate a 10% reduction in material quantities entering the site as new material.
3. Dewatering, 40% is reused or recycled.
4. Stormwater harvesting, demonstrate a 40% savings in use of potable water.
5. Use alternatives to dust suppressants such as dry agents, show a 50% reduction in water usage due to alternative controls.
6. Alternatives for truck tire wash stations, demonstrate 50% reduction in water usage due to alternative controls.
7. Alternatives for curing concrete, demonstrate 50% reduction in water usage due to alternative controls.
8. Reduce embodied water through material selection of permanent and temporary materials, demonstrate how product selection has contributed to reduced potable water consumption by more than 25%The Contractor is encouraged to propose innovative measures for reduced potable water consumption.

Minimum Required Implementation: 3 to 4 of the above 8 strategies.

D. CONSTRUCTING WITH RECYCLED MATERIALS.

To source materials from manufacturers and suppliers that implement sustainable practices, the Contractor must endeavor to maximize the qualifying materials, calculated via total cost, weight, or volume, that are recycled. The use of recycled materials is intended to reduce the use of virgin natural resources and avoid sending useful materials to landfills.

Determine the extent to which the contractor used recycled materials, including materials with recycled content and/or reused existing structures or material. Qualifying materials are all

Minimum Required Implementation: 5% to 14% of materials of recycled origin.

permanent materials incorporated into the Work, excluding plants, soil, rock, land clearing debris.

E. SUSTAINABLE PROCUREMENT OF CONSTRUCTION MATERIALS.

The Contractor must outline their process and criteria for selecting and calculating materials, supplies, and equipment in the Construction Management Plan. The Contractor must endeavor to maximize the amount of materials procured in a sustainable manner. The amount of materials procured in a sustainable manner will be measured by the project's total cost, weight, or volume. Sustainably procured materials are those utilizing following strategies, including, but not limited to:

1. Use environmental management systems consistent with ISO (International Organization for Standardization) 14001.
2. Procure materials with Environmental Product Declarations (EPD) conforming to ISO 14025, 14044.
3. Use materials that have third-party verified sustainability labels (e.g., Forest Stewardship Council (FSC), Green Seal, Eco Logo, Underwriters Laboratory, National Biosolids Partnership (NBP), Concrete Sustainability Council (CSC), etc.).
4. Use suppliers or manufactures that have a third-party verified corporate sustainability report consistent with the Global Reporting Initiative (GRI) Sustainability Report or equivalent.

Flexibility is given to develop additional sustainable procurement best practices that are equivalent to, or exceed, the strategies listed above. If the Contractor intends to use other sustainable best practices or strategies, the Contractor must justify how these requirements meet the provision and submit the alternate best practices or strategies to the Engineer for approval.

Minimum Required Implementation: 5% to 14% of materials procured with sustainable strategies.

F. CONSTRUCTION WASTE MANAGEMENT.

To minimize negative impacts to the environment due to waste production from construction activities, the Contractor must submit within sixty (60) days of NTP, a Construction Waste Management Planning Worksheet (CWMPW) as part of the SCWP, and endeavor to maximize the waste diverted from landfill. See Appendix 7.14.C for an example. The Construction Waste Management Planning Worksheet must estimate the total generated demolition and construction waste to be diverted from disposal. Detailed records must be maintained of all recycled materials, including legible copies of the on-site logs, weight tickets, and receipts. The Contractor must implement the following strategies, including, but not limited to:

1. Identify licensed haulers, transfer stations, processors of recyclables, and transportation procedures.
2. Designate a specific neat, clean, and clearly marked area to facilitate separation and non-contamination of materials for potential salvage, recycling, and waste.
3. Provide on-site instruction covering separation, handling and recycling, salvage, reuse, and return methods to be employed by all parties at the appropriate stages of the project.
4. Send waste material towards recycling or reclamation facilities.
5. Send waste to manufacturers for use as post-consumer recycled content.
6. Send waste to a composting facility.
7. Compost on site.
8. Reuse or recycle materials on site.
9. Explore opportunities to sell or donate salvaged materials, must be protected from contamination.
10. Stockpile and reuse non-contaminated, non-hazardous excavated materials - beneficial re-use of soil is to be given priority.
11. Create purchase agreements requesting vendor deliveries either: reduce the amount of packaging; packaging is made of recyclable materials; and/or discarded packaging is taken back by vendor for their own reuse or recycling.

If appropriate, waste material could be reused as infill, however, this strategy does not count towards meeting the requirements of the Construction Waste Management. It will count towards the requirements of “Balance Earthwork During Construction”.

The Contractor is encouraged to propose innovative waste management measures, which must be submitted to the Engineer for approval.

Minimum Required Implementation: Construction Waste Management Planning Worksheet

G. ENHANCED CONSTRUCTION HEALTH AND SAFETY.

To further enhance public and worker safety during construction, the Contractor must use their Construction Management Plan (CMP) to expand on the current required Construction Health and Safety Plan, and implement the following strategies, items 1 and 2:

1. The contractor and construction team (GC/CM) shall prepare reports or other documentation to prove their commitments to monitoring and improving health and safety. The contractor shall provide documentation of at least two examples indicated below:
   - Proactive safety rewards program to support outstanding safety performance

- Documentation that the contractor developed a program/ requirement to ensure that their subcontractors maintain a high level of safety per the contract
- Documentation that the contractor's senior managers are engaged in the project safety program and conduct safety observations and inspections as part of their standard duties
- Documentation through commitments that safety is a core concern

2. The contractor shall include reliable feedback mechanisms to identify risks, conduct hazard analyses, and communicate hazards to personnel. They can consider including a Feedback Mechanisms Planning & Tracker Worksheet as part of their overall SCWP. The contractor shall provide documentation to prove that at least two examples indicated below were implemented.

   - Develop a proactive investigative process that focuses on root cause and corrective actions vs. disciplinary actions and financial penalties
   - Develop a proactive injury management system that supports efficient, effective, and timely treatment of their employees injured on the job site
   - Develop an incident review process that involves all levels of management to validate corrective measures to minimize future injuries and incidents on the job site
   - Provide a "lessons learned" report that allows other projects the opportunity to review the fact-findings of incidents and implement processes and procedures to minimize similar incidents

3. Safety and/or security competency training programs, either online or in person, for field personnel, including type of training provided and how they specifically target health and safety. Training may include task-specific safety training or general awareness training other than the OHSA 10-hour or 30-hour Construction Safety Training.
4. List of met minimum training requirements for health and safety programs such as occupational safety and health, first aid, CPR, emergency response, active shooter training, or equivalent.
5. Implement comprehensive site and project specific securities, which may include, but not limited to, background checks on personnel working on the project, 24-hour physical or electronic security monitoring of the project site.
6. Provide well-being programs including, but not limited to, health screenings for workers, nutrition classes, exercise workshops, or free vaccinations.

The Contractor is encouraged to propose additional innovative strategies to enhance safety during construction. Additional strategies will not count towards the requirements of this Section.

Minimum Required Implementation: Construction Management Plan AND Strategies 1 and 2. Strategies 3, 4, 5, and 6 are encouraged, and they should be implemented in that order of priority.

H. STAKEHOLDER RELATIONS DURING CONSTRUCTION.

To further minimize or eliminate temporary inconveniences associated with construction and to enhance the SCWP, the Contractor must submit within thirty (30) days of Issuance of the NTP a Construction Management Plan (CMP) that addresses the following construction impacts:

1. Noise.
2. Safety and wayfinding for the public.
3. Access and mobility for the public.
4. Minimizing intrusive lighting.

The CMP must include the following components for mitigating the impacts above:

- Plan or policies to address the temporary inconveniences associated with construction which are informed by stakeholder engagement
- Robust feedback mechanisms
- Performance monitoring and reporting for construction impacts
- Performance monitoring and quantified reporting for mitigated construction impacts

The Contractor is encouraged to propose innovative strategies in their Construction Management Plan; such as planning and preparing a Feedback Mechanisms Planning & Tracker Worksheet. Additional strategies will not count towards the requirements of this Section.

Minimum Required Implementation: Mitigation of 3 of the above 4 impacts.

I. BALANCE EARTHWORK DURING CONSTRUCTION.

The Contractor must use any of the following strategies to reduce the environmental impacts of moving soils and other excavated materials on or off the site. The Contractor must endeavor to reuse all soil, eliminating borrow fill, OR source and reuse all necessary fill and excavated materials as close as possible to the project site using the following strategies:

1. Identify opportunities to minimize grading, retain soil on site to reduce total site soil handling.
2. Eliminate the need to transport additional soil.
3. Beneficially reuse material excavated from the project site on nearby sites or from nearby sites as fill for the project site.
4. Look for options close to the project site to send or source these materials.
5. Record the source or destination of any materials transported on or off site and their proximity to the project site.

Excavated materials deemed hazardous should not be included in the total calculations and should be disposed of accordingly. See Appendix 7.14.D for an example.

Minimum Required Implementation: Determine the total soil movement on and off the site. Excavated material moved off site and/or fill brought onto the site does not exceed 70% of total site soil handling. OR 100% of fill and excavated materials are sourced or reused within 25 miles of the site.

J. ENHANCED SURFACE AND GROUNDWATER QUALITY DURING CONSTRUCTION.

To further prevent groundwater contamination during construction, the Contractor must submit within sixty (60) days of NTP as part of their SCWP, a Surface and Groundwater Quality Planning Worksheet (SGQP) that further analyzes the project and determines additional potential impacts to surface and groundwater quality, including temperature. See sample in Appendix 7.14.E for guidance. Contractor must endeavor to implement the following strategies:

1. Determine the potential impacts to surface water or groundwater quality during construction, including temperature.
   a. Obtain documentation of the hydrologic and/or hydrogeologic delineation studies from local authorities
2. Prepare a Spill and Leak Prevention Plan and a Response and Cleanup Plan.
3. Prepare a Plan showing the placement of materials, storage piles, and handling of materials, and show the prevention measures taken to avoid polluting the groundwater and/or stormwater runoff.
4. Eliminate the need for a hazardous or potentially polluting substances or materials.

5. Monitoring and reporting mechanisms to provide the public with water quality data.
6. Restore degraded natural systems to improve overall water quality on site, or in the watershed, compared to the pre-existing baseline. Not an option for project that include an outfall.
7. Install systems to clean or remove contaminants from surface water and/or groundwater that improve the overall on-site or watershed water quality compared to pre-existing baseline.
8. Install systems to prevent existing (non-project related) contamination from entering receiving waters or from altering receiving water flow.

Minimum Required Implementation: Surface and Groundwater Quality Planning Worksheet AND items 1, 2, and 3. Strategies 4, 5, 6, 7, and 8 are encouraged, and they should be implemented in that order of priority.

7.14.4 MEASUREMENT AND PRICE TO COVER

A. INTENT

The price bid for SUSTAINABLE CONSTRUCTION is intended to provide a mechanism to incentivize and compensate the Contractor for exceeding the Minimum Required Implementation. The Contractor will only be paid for work completed; hence 100% payment is not guaranteed.

B. AMOUNTS OF INCENTIVES

The table below lists the amounts of available incentive payments for sustainable construction. The percent values shown in the “value” column serve as the lump sum breakdown for Item 7.14 – SUSTAINABLE CONSTRUCTION INCENTIVE.

SUSTAINABLE CONSTRUCTION GOAL		ACTION	INCENTIVE VALUE
0	Planning: Sustainable Construction Workplan	Construction Pending Documents Tracker	1%
		Construction Waste Management Planning Worksheet	2%
		Construction Management Plan	2%
		Surface and Groundwater Quality Planning Worksheet	1%
		Feedback Mechanisms Planning & Tracker Worksheet	1%
2	Construction Energy Conservation	Implement 2 - 3 out of 7 Strategies	5%
		Implement 4 - 7 Strategies	9%
3	Construction Water Consumption	Implement 3 - 4 out of 8 Strategies	4%
		Implement 5 - 8 Strategies	5%
4	Constructing with Recycled Materials	Achieve 5% to 14%	5%
		Achieve 15% +	9%
5	Sustainable Procurement of Construction Materials	Achieve 5% to 14%	5%
		Achieve 15% +	9%
6	Construction Waste Management	Achieve 25% to 49%	5%
		Achieve 50% +	9%
7	Enhanced Construction Health and Safety	Implement 3 - 8 Strategies	5%
8	Stakeholder Relations During Construction	Address 3 - 4 Impacts	5%
9	Balance Earthwork During Construction	Achieve 30% or Within 25 Miles	9%
10	Enhance Surface and Groundwater Quality During Construction	Implement 2 out of 7 Strategies	4%
		Implement 3 - 7 Strategies	5%
			100%

C. PRICE TO COVER

The lump sum price bid for SUSTAINABLE CONSTRUCTION INCENTIVE will include the incremental cost of furnishing all labor, materials, plant, equipment, insurance, and incidentals required to implement the sustainable construction scope described in this section. Payments will be made in accordance with the lump sum percentage breakdown above.

Payment will be made under:

Item No.	Item	Pay Unit
7.14	SUSTAINABLE CONSTRUCTION INCENTIVE	L.S.

APPENDIX 7.14.A

SAMPLE CONSTRUCTION PENDING DOCUMENTS TRACKER

TO BE PROVIDED BY THE PROJECT ENV SP AT PRE-AWARD MEETING; DEPENDANT ON ENVISION CREDITS ADDRESSED

Document Number	Envision Credit Description	Envision Criteria	DOCUMENTATION FOR BASELINE CREDITS - NO INCENTIVE / LD WILL BE APPLIED IF NOT SUBMITTED		
			How The Credit Would be Achieved	Name of The Relevant Construction Documer	Expected Date
1	QL1.3 Improve Construction Safety	A	Documentation that owners and contractors implemented a proactive safety rewards program to support outstanding safety performance.		
2		A	Documentation that the contractors developed a program/ requirements to ensure that their subcontractors maintain a high level of safety per the contract.		
3		A	Documentation that the contractor's senior managers are engaged in the project safety program and conduct safety observations and inspections as part of their standard duties.		
15	QL1.6 Minimize Construction Impact	A	Documentation of a construction management plan or policies.		
16		A	Documentation that the construction management plan or policies address concerns of stakeholders.		
17		B	Documentation of a management plan or policies to mitigate impacts of construction noise and/or vibrations to the extent feasible.		
18		B	Documentation that the construction noise management plan includes stakeholder engagement and mechanisms for communities to report complaints. Documentation may include corrective actions taken in response to stakeholder reporting.		
27	QL3.3 Enhance Views & Local Character	D	Documentation of the construction management plan that identifies important natural or man-made features deemed important to views or local character and how they will be protected during construction.		
28	LD1.2 Foster Collaboration & Teamwork	D	Documentation that construction, operations and/or maintenance representatives have participated in the integrated design process.		
29		D	Documentation that the integrated process has improved sustainability performance in later phases of the project.		
30	LD1.3 Provide for Stakeholder Involvement	E	Documentation may also demonstrate an absence of significant new stakeholder issues arising as the project advances to final design and construction.		
31	LD1.4 Pursue Byproduct Synergies	D	Documentation of byproduct reuse: a. Short-term/one-time (e.g., during construction or for a limited period of time).		

APPENDIX 7.14.B

SAMPLE CONSTRUCTION MANAGEMENT PLAN

Sustainable Provisions / SCOPE	Anticipated Envision Level of Achievement	List Selected Strategies	Reason(s) for Selection of Specific Strategies(s)	Incentivized Strategies Additional Documentation That Would Be Required	Name and Description of The Supporting Documentation	Expected Delivery Date to the Field Office Engineer
CONSTRUCTION ENERGY CONSERVATION	*Choose at least 2 strategies*			Documentation that the project has implemented fuel reduction strategies		
CONSTRUCTION WATER CONSUMPTION	*Choose at least 3 strategies*			Documentation that the project has implemented water conservation strategies Calculations of potable water saved; for each strategy as opposed to no action Calculations of potable water cost saved		
CONSTRUCTING WITH RECYCLED MATERIALS	*Minimum of 5% of the materials must be recycled*					
SUSTAINABLE PROCUREMENT OF CONSTRUCTION MATERIALS	*Choose materials to fulfill 15% Sustainable Procurement*			Defined process for selecting and calculating materials, supplies, and equipment, including selection criteria An inventory for all materials being tracked for sustainable procurement practices, including a description of the material and the manufacturer or supplier of the material, along with evidence of the disclosure requirements.		
				Calculations of the percentage of the total project materials by cost, weight, or volume that meet the provision ... . Documentation of the total weight, volume, or cost of materials		
CONSTRUCTION WASTE MANAGEMENT	*Choose strategies to fulfill xxxxx*			Documentation of total quantity of recycled materials used on the project by weight, volume, or cost.		
				Documentation of percentage (by weight, volume, or cost) of project materials shall be recycled or re-used materials (excl. plants, soil, rock and water).		
	Choose strategies to fulfill xxxx			Implement a construction waste management plan		
				During construction at least 25% (50%) of waste materials are recycled, reused, and/or salvaged.		
				Material/supplier tracking forms and/or spreadsheets; receipts/invoices.		

APPENDIX 7.14.C

SAMPLE CONSTRUCTION WASTE MANAGEMENT PLANNING WORKSHEET

Construction Waste Management Planning Worksheet

RA1.4 Reduce Construction Waste

Number	Material Name	Amount of Waste	Amount Recycled	Amount Reused	Amount Salvaged	Total Material Amount Diverted from Landfill	Document Name	Expected Delivery Date to the Field Office Engineer	Comments
1	Ex. WM Pipe	690 LBS	690 LBS	0 LBS	0 LBS	690 LBS	Scrap Ticket	Ongoing during work	
2	Ex. Utility Hardware	11,570 LBS	100 CY	5,240 LBS	0 CY	100 CY	Delivery Tickets/Field Records	Ongoing during work	
3	Asphalt	20 CY	20 CY	0 CY	0 CY	20 CY	Dump Tickets	Ongoing during work	
4	Existing Concrete	520 CY	520 CY	0 CY	0 CY	520 CY	Dump Tickets	Ongoing during work	
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									

APPENDIX 7.14.D

SAMPLE BALANCED EARTHWORK PLANNING WORKSHEET

Balance Earthwork Planning Worksheet

RA1.5 Balance Earthwork On Site

Number	Material Name	Amount of Waste	Amount Recycled	Amount Reused	Amount Salvaged	Distance	Total Material Amount Diverted from Landfill	Document Name	Expected Delivery Date to the Field Office Engineer	Comments
1	Soil	375 CY	0 CY	**TBD**	0 CY	< 25 miles	**TBD**	Dump Tickets	Duration of Project	
2										
3										
4	Import Clean Fill	0 CY	72 CY	**TBD**	0 CY	> 25 miles	72 CY	Tickets prepared on Site	Duration of Project	
5	Import Sand/Select Gran.	0 CY	73 CY	**TBD**	0 CY	**TBD**	73 CY	Tickets prepared on Site	Duration of Project	
6	Import Stone	0 CY	0 CY	0 CY	0 CY	**TBD**	0 CY	Delivery Tickets	Duration of Project	
7	Import RCA	247 CY	247 CY	0 CY	0 CY	> 25 miles	247 CY	Delivery Tickets	Duration of Project	
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										

APPENDIX 7.14.E

SAMPLE SURFACE AND GROUNDWATER QUALITY PLANNING WORKSHEET

Surface and Groundwater Quality Planning Worksheet				
NW2.4 Protect Surface & Groundwater Quality				
Spec Section	Strategy	Anticipated Compliance	Comments	Document received on (Date)
7.14.10.1	Provide studies	Yes - 1/31/24	Please write the entire strategy for each section	
7.14.10.2	Spill & Leak Plan	Yes - Provided	Please resend, TT has no record of plan	
7.14.10.3	Material Placement Plan	Yes - 1/31/24	Please send plan	
7.14.10.4	Elim... Haz. Substances	No		
7.14.10.5	Monitoring Mechanisms	No		
7.14.10.6	Restore degrade Systesms	No		
7.14.10.7	Inst. Systems to clean cont.	No		
7.14.10.8	Inst. Systems to prevent cont.	No		

SECTION RHCR 6.35 – SLIDING GATE

RHCR 6.35.01 DESCRIPTION.

This specification covers detailed requirements for cantilever and overhead slide chain link fence gates, gate posts, and accessories for industrial and commercial applications

RHCR 6.35.02 MATERIALS.

A. The base materials of the gate frame shall be round or rectangular tubular members, welded at all corners. However, bolted or riveted, or both, field assemblies of modular panels are permitted.

B. The interior vertical or horizontal bracing, when needed, shall be the same metal tubular material and finish as the gate frame, but need not be the same size.

C. Manufactured Gate frames must be fabricated, and coated where required, as described below.

1. Zinc-Coated Steel Frames shall be in accordance with Specifications ASTM A780: Standard Practice for Repair of Damaged and Uncoated Areas of Hot-Dip Galvanized Coatings
2. Aluminum Alloy Gate Frames shall be in accordance with Specifications B221 for and 6061-T6
3. Polymer-Coated Steel or Polymer-Coated Aluminum Frames shall be in accordance with Specification F1043 and shall match that selected for any adjoining fence framework.
4. Welded joints on steel gate frames shall be coated in accordance with Practice A780

D. For gates intended to be automated, manufacture must conform to the applicable provisions of Specification

RHCR 6.35.03 REFERENCES

A. ASTM F 2200 – Standard Specification for Automated Vehicular Gate Construction. See 1.03 D.1.

B. ASTM F 1184 – Standard Specification for Industrial and Commercial Horizontal Slide Gates, Type II, Class 2. See 3.02 B.

C. American Welding Society AWS D1.2 Structural Welding Code. See 1.03 D.3 and 2.03 D.

D. American Society of Civil Engineers – ASCE-7 Wind Load Requirements.

RHCR 6.35.04 ACTION SUBMITTALS

E. PRODUCT DATA: For each style of Sliding Gate include:

1. Construction details, material descriptions, dimensions of individual components and profiles, and finishes for each type of floodgate.
2. Preparation instructions and recommendations.
3. Storage and handling requirements and recommendations.
4. Installation methods.
5. Manufacturer's product specifications and other data demonstrating that the products meet or exceed all requirements set forth in these Specifications and on the Contract Drawings. Make other items and/or submittals required to indicate conformance with the Contract Documents available for Engineer's inspection.

A. SHOP DRAWINGS:

1. Submit prior to performing any fabrication.

a. Include plans, elevations, sections, and perspective drawings as necessary to depict proper placement, installation, and operation methods for each style of sliding gate to be installed. Include anchoring, mounting, and attachment details.
   (1). Show metalwork and machine work including catalog cuts, templates, fabrication and assembly details and type, grade, and class of material as appropriate. Identify all temporary and tack welds. Identify each member following the numbering scheme shown on the Contract Drawings. Provide a table containing a list of all members and a reference to each material certificate and test report that applies to that member.
   (2). Identify weld procedures and non-destructive testing (NDT) required for each weld.
   (3). Include any and all splices and cloud for approval.
   (4). Indicate methods of protecting the work during shipping, storage, field assembly, and installation.

2. Submit detail drawings of sliding gates and appurtenant items, including fabrication drawings, shop assembly drawings, delivery drawings, and field installation drawings.
3. Detail fabrication and assembly of each style and size of sliding dgate. Include complete parts list and installation requirements for the specific type of assemblies proposed and distinguish between factory and field assembled work.
   a. Fabrication Drawings: Show complete details of materials, tolerances, connections, and proposed welding sequences which clearly differentiate shop welds and field welds.
   b. Shop Assembly Drawings: Provide details for connecting the adjoining fabricated components in the shop to assure satisfactory field installation.
   c. Delivery Drawings: Provide descriptions of methods of delivering components to the site, including details for supporting fabricated components during shipping to prevent distortion or other damages.
   d. Field Installation Drawings: Provide a detailed description of the field installation procedures. The description must include the location and method of support of installation and handling equipment; provisions to be taken to protect concrete and other work during installation; method of maintaining components in correct alignment including descriptions of connections, riggings, anchorages, and measuring equipment; and methods for installing other appurtenant items.
      (1). Include details of equipment assemblies. Indicate dimensions, weights, loads, required clearances, method of field assembly, components, and location and size of each field connection.
      (2). Submit details of the control/operation mechanisms and systems, and diagrams for power, signal, and control wiring.
      (3). Drawings must be signed and sealed by a Professional Engineer licensed to practice in New York State.

RHCR 6.35.05 INFORMATIONAL SUBMITTALS

A. QUALIFICATION DATA:

1. In accordance with **Section 6.35.07**, demonstrate experience and volume of work meets requirements specified. Demonstrate capabilities and experience. Include list of completed projects with project names, addresses, names of architects or engineers and owners.

RHCR 6.35.06 CLOSEOUT SUBMITTALS

A. OPERATION AND MAINTENANCE DATA (O&M): For flood gates to include in emergency and normal operation and maintenance manuals. Furnish one (1) hard copy of an O&M Manual

including as-built drawings, installation instructions, a full component list, and maintenance instructions.

RHCR 6.35.07 QUALITY ASSURANCE

B. MANUFACTURER QUALIFICATIONS: The entity manufacturing the gates must be regularly engaged in the design and manufacture of sliding gates of the types indicated and must have:

1. Been in business for a minimum of 5 (five) years.
2. Have completed a minimum of 3 projects of similar size and contract value in the last 3 years.

C. INSTALLER QUALIFICATIONS: An entity that employs installers and supervisors who are trained and approved by manufacturer. Manufacturer representative must be on-site during gate installation to provide advisory services.

D. MANUFACTURER'S ENGINEER: A Professional Engineer licensed to practice in New York State.

RHCR 6.35.08 PERFORMANCE REQUIREMENTS.

A. Gate manufacturer shall certify gate is manufactured in compliance with ASTM F 2200, Standard Specification for Automated Vehicular Gate Construction.

B. If operated gate system, gate operator shall be in compliance with UL 325 as evidenced by UL listing label attached to gate operator.

C. Gate manufacturer shall provide independent certification as to the use of a documented Welding Procedure Specification and Procedure Qualification Record to ensure conformance to the AWS D1.2 welding code. Upon request, Individual Certificates of Welder Qualification documenting successful completion of the requirements of the AWS D1.2 code shall also be provided.

D. Gate is to be designed to meet specified ASCE-7 wind load requirements with the gate in the closed and latched condition only. Typical gate design is expected to operate satisfactorily in winds up to 30 MPH.

E. Width of gate opening shall match existing conditions and/or as shown on the contract drawings, measured from one inside face to the other inside face of the gate posts.

F. Height of gates hall be measured from the finished grade line to the top edge of the gate frame, to match the height of the adjoining fence as measured from the finished grade line to the top edge of the top rail or fabric.

G. Type I (overhead slide) gates with opening widths up to 40 ft (12.2 m)

1. Gate Frame. Shape and size of the gate frame shall conform to procurement drawings or shall be of the shape and size as specified. The gate frame width shall be the width of the gate opening plus the diameter of one gate post. Dimension and Weight—Gate frame members shall have dimensions and weights as described in Table 1.

TABLE 1 - Type I Gates—Gate Frame Members, Dimensions and Weights

Gate Fabric Weight	Outside Dimensions		Nominal Weight	
	In.	(mm)	lb/ft	(kg/m)[1]
6ft(1.8m) or less				
Round tubular (steel)	1.66	(42.2)	1.83	(2.72)
Rectangular tubular (steel)	1.50	(38.1)	1.84	(2.74)
Round tubular (aluminum)	1.90	(48.3)	0.91	(1.35)

Rectangular tubular (aluminum)	2.00	(50.8)	0.91	(1.35)
Over 6 ft (1.8 m)				
Round tubular (steel)	1.90	(48.3)	2.28	(3.39)
Rectangular tubular (steel)	2.00	(50.8)	2.52	(3.75)
Round tubular (aluminum)	1.90	(48.3)	0.91	(1.35)
Rectangular tubular (aluminum)	2.00	(50.8)	0.91	(1.35)
Interior bracing[2]				
Round pipe (steel)	1.66	(42.2)	1.83	(3.39)
Rectangular pipe (steel)	1.50	(38.1)	1.84	(2.74)
Round tubular (aluminum)	1.90	(48.3)	0.91	(1.35)
Rectangular tubular (aluminum)	2.00	(50.8)	0.91	(1.35)

[1]Weight tolerance, ±5 %.

[2]The gate shall have vertical interior bracing at maximum intervals of 8 ft (2.4 m), and shall have a horizontal interior member if fabric height is 8 ft (2.4 m) or more

2. Gate Posts

   a. Gates having an opening width of up to 10ft(3.05m) and an overhead clearance of up to14ft(4.27 m) shall be supported by steel posts with a nominal outside diameter of 2.875 in. (73.02 mm) and a minimum weight of 4.64 lb/linear ft (6.91 kg/m).

   b. Gates having an opening width larger than 10 ft (3.05 m) but up to 24 ft (7.32 m) with an overhead clearance of up to 22 ft (6.71 m) shall be supported by steel posts with a nominal outside diameter of 4.00 in.(101.6 mm) and a minimum weight of 6.56 lb/linear ft (9.77 kg⁄m).

   c. Gates having an opening width larger than 22 ft (6.7 m) but up to 40 ft (12.2 m) and an overhead clearance of up to 22 ft (6.71 m) shall be supported by a double set of steel posts with a nominal outside diameter of 4.00 in. (101.6 mm) and a minimum weight of 6.56 lb/linear ft (9.77 kg/m), or a single set of steel posts with a nominal outside diameter of 6.625 in. (168.3 mm) and a minimum weight of 18.97 lb/linear ft (28.27 kg⁄m).

   d. For post lengths over 24 ft (7.32 m), a single weld butt joint reinforced by an internal sleeve at least 2 ft (0.61 m) in length will be permitted. Gate posts shall be installed in accordance with Practice F567.

3. Gate Support Member. The overhead track support member shall be as indicated in the project specifications. The support member shall extend over the gate opening span and the adjacent span at the specified ground clearance. The support member shall be of adequate length to ensure a clear opening. The track and member shall have proper corrosion protection.

4. Roller Assembly. The gate shall be suspended from the overhead track member by means of suitable internal or external roller assemblies. These roller assemblies shall consist of at least two swivel type trucks having sealed lubricant ball bearing wheels, or roller bearing wheels with grease fittings, and include a means to assure that the trucks remain properly aligned in or on the track during all normal operations of the gate.

5. Gate Extensions. Gate extensions, which consist of vertical members which span the distance between the top of the gate and the overhead track, shall be attached to the gate frame by means of a threaded or bolted coupling, or a combination of both.

6. Gate Extension Bracing. Suitable diagonal or horizontal bracing, or both, shall be provided to ensure proper rigidity of the gate during normal operation.

H. Type II (cantilever slide) gates with opening widths up to 30 ft (9.1 m)

1. Shape and Size. Shape and size of the gate frame shall conform to procurement drawings or shall be of the shape and size as specified. The gate frame width shall be the width of the opening plus the diameter of one gate post, plus an overhang or counterbalance panel of at least 40 % of the width of the opening. Only the size of the opening need be filled with fabric or other specified material. Class 1 and Class 2 gates with tubular steel frames shall conform to the dimensions and weights in Table 2.

TABLE 2 - Type I Gates—Gate Frame Members, Dimensions and Heights

Gate Opening Width and Height	Outside Diameter of Pipe		Nominal Minimum Weight of Pipe	
	In.	(mm)	lb/ft	(kg/m)[1]
Frame Size				
4 ft (1.2 m) width or less	1.90	(48,26)	2.28	(3.40 kg/m)
6 ft (1.8 m) height or less				
Over 4 ft (1.2 m) width	2.375	(60.325)	3.11	(4.63 kg/m)
All heights				
Interior bracing				
All gates	1.90	(48.26)	2.28	(3.40 kg/m)
Diagonal bracing				
All gates	1.90	(48.26)	2.28	(3.40 kg/m)

1. Gate Posts.

a. Gates having an opening width of up to 12 ft (3.7 m) shall be supported by steel posts with a nominal outside diameter of 2.875 in. (73.03 mm) and a minimum weight of 4.64 lb/linear ft (6.91 kg/m).

b. Gates having an opening width larger than 12 ft (3.7 m) shall be supported by steel posts with a nominal outside diameter of 4.00 in. (101.6 mm) and a minimum weight of 6.56 lb/linear ft (9.77 kg/m).

c. Gate posts shall be installed in accordance with Practice F567.

2. Guide Posts (for Class 1 Gates Only). Guide posts for all Class 1 gates equal to the height of the gate shall be installed adjacent to each gate support post. The gate shall slide between the gate support posts and the guide posts. Guide posts shall be the same as, or one pipe diameter smaller than, the gate support posts and shall have a minimum weight of 3.11 lb/ft (4.63 kg/m).

3. Roller Assembly.

a. External rollers for Class1 gates shall be galvanized, malleable iron riding on a caged cylindrical roller or needle bearing. The bearing shall extend a minimum of 90 % of the width of the inside of the roller wheel, turn on a steel axle shaft and be housed within a steel bearing race or sleeve. The bearing shall not ride on any surface of the iron casting. The roller shall be drilled, tapped and equipped with a grease fitting. Roller assemblies

shall be secured to the gate posts with a minimum of two 5⁄8 in. (15.9 mm) diameter “U” bolts, nuts, and lock washers for each assembly.

b. Internal rollers for Class 2 gates shall consist of two swivel type trucks having sealed lubricant ball bearing wheels and a means to assure that the trucks remain properly aligned in the track during all normal operations of the gate.

4. Top Roller Guards. Top external rollers for Class 1 gates shall be covered by top roller guards (see Fig. 2). Top roller guards shall be designed to help lessen pinch points, thereby helping eliminate possible injuries from top external rollers. The top roller guards shall be installed to help provide a safe opening from the bottom edge of the guard to the top edge of the gate frame. The maximum opening between the gate frame and the guard shall be 0.25 in. (6.4 mm).9.1.4.4

5. Bottom Protective Plates. Bottom external rollers for Class 1 gates shall have a bottom roller protective plate attached (see Fig. 2). The bottom protective plate shall be secured behind the cotter pin (or behind the nut and cotter pin, if used) on the roller axle.

6. Performance Criteria. All Class 2 gates shall per-form to the minimum criteria outlined in Table 3 and shall be installed to manufacturer’s specifications. All minimum performance criteria for the fabric or other filler material and other accessories installed shall be met, including a gate operator where specified.9

7. Field Adjustment. All gates shall be designed with a means to adjust the vertical alignment of the gate in the field.

8. Latching. All gates shall be designed with sufficient lateral stability to assure that the gate will enter a catcher which has a 12 in. (305 mm) width (6 in. (152 mm) on each side from center) under wind loads as indicated and using the particular means of operation as indicated in the project specifications.

9. Assembly and installation instructions which clearly outline the proper procedure for all required assembly and proper installation and tuning of the gate shall be included with all gate shipments.

TABLE 3 - Minimum Performance Criteria, Type II, Class 2 Gates

Performance Factor	Maximum Allowable Distances	
	Opening Width Up to 21 ft (6.4 m)	Opening Widths, 21 ft to 30 ft (6.4 mto9.1m)
	In. (mm)	In. (mm)
Downward deflection (unloaded)[1]	½ (12.7)	1 (25.4)
Downward deflection (loaded)[1]	2 (50.8)	3 (76.2)
Vertical chord[2]	½ (12.7)	1 (25.4)
Lateral chord (camber)[3]	½ (12.7)	1 (25.4)

[1]Downward deflection, unloaded and loaded—Measure the gate within 6in.(152.4 mm) of being fully closed, and without support by devices at the latch end. The measurement is made twice, once with the gate totally unencumbered by any foreign weight, and once with a 200-lb (907-kg) dead weight attached to the front of the gate. The critical measurement is made at the maximum vertical distance between the extension of a

straight line drawn at the top of the gate between the two internal truck assemblies at the point of the two center bolt sand the top of the gate at the outermost point of the latch end of the gate.

[2]Vertical chord—Measure the maximum vertical distance between a straight line drawn between the two top ends of the gate and any point on the top of the gate.

[3]Lateral chord (camber)—Measure the maximum lateral distance between a straight line drawn between the two top or two bottom outside points of the vertical members of the gate and the corresponding lateral member.

RHCR 6.35.09 MEASUREMENT AND PAYMENT

A. Payment will be made at the lump sum price bid for each size and type of fabricated metal sliding gate.

RHCR 6.35.10 PRICE TO COVER

A. Payment will constitute full compensation for furnishing all plant, labor, supervision, materials, and equipment and performing all operations necessary for furnishing and installation of fabricated sliding gates as specified and as shown in the Contract Drawings.

The lump sum price bid for each item is to include

1. Shop drawings signed/sealed by licensed NYS Professional Engineer
2. All Department of Building filings required
3. The sliding gate, complete including coatings, and non-slip surfaces,
4. All submittals, testing and demonstrations required,
5. Shop and field inspection and testing,
6. All operating and control equipment for the sliding gates,
7. Field oversight and inspection by factory authorized representative,
8. Electric winch motors and steel pedestals for operating sliding gates,
9. Embedded and/or sill, jam, door support beams, latches, and hinge plates attached to walls and footings,
10. Accessories and appurtenances,
11. Incidental parts,

The Item Numbers for Furnishing, Delivering And Installing a Sliding Gate with all appurtenances as described above will be made under the item number as calculated below:

The item number for furnish, delivering and installing the sliding gate shall have nine characters. (The decimal point is considered a character, the second character.)

(1) The first four characters must define Furnishing, Delivering And Installing a Sliding Gate:

6.35

(2) The fifth and sixth characters must define the sliding gate type:

T1 = Type 1

T2 = Type 2

(3) The seventh characters must define the material of the sliding gate:

Z = Zinc Coated Steel

A = Aluminum Alloy

P = Polymer-Coated Steel

(4) The eight, ninth, and tenth Characters must define the approximate opening size

10 = 10-Feet

20 = 20-Feet

108 = 108-Feet

The Item Numbers together with Description and Pay Unit as provided in the Bid Schedule are provided below:

Payment will be made under

Item No.	**Item**	**Pay Unit**
RHCR 6.35T1P015	SLIDING GATE AT OCONNELL SUBSTATION (15' LONG, BLOCK 611, LOT 1)	LS
RHCR 6.35T2A046	SLIDING GATE AT VERIZION PROPERTY (46' LONG, BLOCK 605, LOT 1)	LS
RHCR 6.35T2A060	SLIDING GATE AT VERIZION PROPERTY (60' LONG, BLOCK 605, LOT 1)	LS
RHCR 6.35T1P108	SLIDING GATE AT 118 BEARD STREET (108' LONG, BLOCK 604, LOT 46)	LS
RHCR 6.35T2Z033	SLIDING GATE AT 421 VAN BRUNT (33' LONG, BLOCK 612, LOT 1)	LS
RHCR 6.35T1Z026	SLIDING GATE AT 261 CONOVER ST (26' LONG, BLOCK 610, LOT 1)	LS

END OF SECTION

SECTION RHCR 6.35 OH– RESIDENTIAL OVERHEAD DOORS

RHCR 6.35OH.01 DESCRIPTION.

This specification covers detailed requirements for Residential Metal Overhead Doors.

RHCR 6.35OH.02 REFERENCES.

A. ANSI/DASMA 108 Standard Method for Testing Sectional Garage Doors and Rolling Doors: Determination of Structural Performance Under Uniform Static Air Pressure Difference

RHCR 6.35OH.03 DESIGN / PERFORMANCE REQUIREMENTS

A. Wind Loads: Design and size components to withstand loads caused by pressure and suction of wind acting normal to plane of wall as calculated in accordance with applicable code.

1. Design pressure of 20 lb/sq ft (138 kPa).

B. Deflection: Maximum deflection of door in horizontal position shall be 1/120 of door width.

C. Thermal Transmission: Door section U value shall be 0.10 or less, tested in accordance with ASTM C 236 by an independent testing laboratory. (R value 10 or more.)

D. Air Infiltration: Rating shall be 0.15 or less cu ft/min per sq ft of door area, tested in accordance with ASTM E 283 at a pressure difference of .112 inch H2O (15 miles/hr) by an independent testing laboratory.

E. Wiring Connections: Requirements for electrical characteristics.

a. 115 volts, single phase, 60 Hz.

F. Products Requiring Electrical Connection: Listed and classified by Underwriters Laboratories, Inc. acceptable to authority having jurisdiction as suitable for purpose specified.

G. Single-Source Responsibility: Provide doors, tracks, motors, and accessories from one manufacturer for each type of door. Provide secondary components from source acceptable to manufacturer of primary components.

RHCR 6.35OH.04 SUBMITTALS

A. Product Data: Manufacturer's data sheets on each product to be used, including:

1. Preparation instructions and recommendations.
2. Storage and handling requirements and recommendations.
3. Installation methods.

B. Shop Drawings: Indicate plans and elevations including opening dimensions and required tolerances, connection details, anchorage spacing, hardware locations, and installation details.

C. Selection Samples: For each finish product specified, two complete sets of color chips representing manufacturer's full range of available colors and patterns.

D. Verification Samples: For each finish product specified, two samples, minimum size 6 inches (150 mm) square, representing actual product, color, and patterns.

E. Manufacturer's Certificates: Certify products meet or exceed specified requirements.

F. Operation and Maintenance Data.

RHCR 6.35OH.05 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section with minimum 5 (five) years documented experience.

B. Installer Qualifications: Authorized representative of the manufacturer with minimum five years documented experience.

C. Products Requiring Electrical Connection: Listed and classified by Underwriters Laboratories, Inc. acceptable to authority having jurisdiction as suitable for purpose specified.

RHCR 6.35OH.06 DELIVERY, STORAGE, AND HANDLING

A. Store products in manufacturer's unopened labeled packaging until ready for installation.

B. Protect materials from exposure to moisture until ready for installation.

C. Store materials in a dry, ventilated weathertight location.

D. Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with requirements of local authorities having jurisdiction.

RHCR 6.35OH.07 MATERIALS

A. Insulated Steel Sectional Overhead Doors:

1. Steel section enclosing and bonded to a solid core of polyurethane or polystyrene insulation, and forming a composite rigid panel with a minimum thickness of 1-5/8 inches.
2. Door Assembly: High tensile strength steel construction.
3. Size: As indicated on the Drawings.
4. Exterior Steel: Residential grade high strength hot-dipped galvanized steel with an embossed simulated wood grain texture. 26 gauge (.0183) nominal.
5. Core: Tightly packed polyurethane or polystyrene insulation.
6. Thermal Values: R-value of 7.4.
7. Finish/Color: Two coat baked-on polyester.

B. End Caps: 16 gage minimum, hot-dipped galvanized steel closures, with a paint finish to match exterior face.

C. Fabrication and Manufacture:

1. Each face shall be fabricated from a single steel sheet and meeting edges of door sections shall be formed with a rabbeted or keyed weather seal.
2. Insulation shall be placed between the metal faces in a manufacturing process which will bond the insulation to the metal and completely fill the space within the door section, resulting in a rigid metal/insulation/metal sandwich construction.
3. Each door section shall be reinforced with continuous reinforcing as required by door width and wind loading and deflection requirements. Reinforce bottom section as required by weight of door. Reinforcement shall be galvanized steel strips, bars, struts or trusses, and securely bolted, riveted or welded in place if not an integral part of door section.

D. Weatherstripping, comply with the air infiltration rating specified:

1. Sill: Compressible and replaceable; rubber, PVC or vinyl tubular astragal, attached to bottom of door.
2. Jambs: Rubber, high density polyethylene or vinyl seals which will prevent metal to metal contact.
3. Head: Rubber, PVC or vinyl seal, attached to door or head, designed to provide a firm seal between door and head regardless of exterior/interior temperature variances.
4. Door Section Joints: Rubber, PVC or vinyl gasket in joints of meeting edges.
5. Securely attach sill, jamb, and head weatherstripping with metal fasteners or approved retainers; adhesive application will not be acceptable.

E. Tracks, Supports and Bumpers

1. Tracks and Reinforcement: Galvanized steel tracks and reinforcement. Reinforce vertical tracks with heavy duty mounting brackets 16 inches oc or continuous steel angles welded or through bolted to track. Incline vertical tracks or otherwise design to ensure weathertight closure at jambs when door unit is closed. Reinforce horizontal tracks with continuous steel angles welded to track. Track system shall allow for normal door movement caused by temperature changes.
2. Track Size: 3 inches.
3. Track Supports: Galvanized steel shapes, except as otherwise indicated.
4. Door Bumpers: Compression spring or leaf spring bumper located at the end of each horizontal track, designed to cushion and stop door at end of opening operation.

F. Hardware

1. Hinges and Roller Brackets: Minimum 13 gage steel hinges at each end cap, and at intermediate locations as recommended by door manufacturer. Fabricate hinges at end caps for mounting of rollers. Attach hinges to door sections with self-tapping fasteners. Doors exceeding 12 feet in width or 385 pounds in weight shall have double end hinges.
2. Rollers: Heavy duty rollers with steel ball bearings in case-hardened steel races, mounted with varying projections to suit slope of track. Where double hinges are required, extend roller shaft through both hinges. Roller tires shall suit size of track and be the following type:
3. Locking Device
    a. Five pin, 1-1/8 inch rim cylinder lock assembly (except cylinder) with chromium-plated operating handle and die cast aluminum plate retainers, operable from inside and outside.

RHCR 6.35OH.08 EXECUTION

A. Verification of Conditions: Examine door openings for defects that will adversely affect the execution and quality of the Work. Do not proceed until unsatisfactory conditions are corrected.

B. Install the Work of this Section in accordance with manufacturer’s printed instructions, except as shown or specified otherwise.

1. Field connections and fastening shall be as recommended by the door manufacturer for the conditions, unless otherwise indicated.
2. Secure and support tracks as required to prevent sag, sway, and detrimental vibration during opening and closing of door.
3. Fasten vertical track assembly to framing with continuous steel angles 24 inches oc, or with mounting brackets 16 inches oc.
4. Support horizontal (ceiling) track assembly with laterally-braced hanger at end of track, secured to overhead structural members. For doors 10 feet high and over, install an additional laterally-

braced hanger at the center of horizontal tracks. Also secure horizontal track reinforcement at wall.

5. Install bracing and supports as necessary to rigidly secure door operating equipment and appurtenances.
6. Install junction box for wiring of safety edge device at mid-point of door travel. Connect flexible wiring to safety edge device and junction box with strain relief grips.
7. Install flexible wiring to be free from obstruction, with no excess wiring, when door is fully opened or fully closed.

C. Coordinate location of chains or pulls so they will not interfere with door operation.

D. Adjust and lubricate doors and operating equipment to operate smoothly. Adjust door fit and weatherstripping seals to make a weathertight fit for the door perimeter.

E. Repair cut, welded, and abraded galvanized surfaces with a minimum 2 mil thick coating of cold galvanizing compound (containing 93 percent zinc) applied in accordance with compound manufacturer' instructions.

RHCR 6.35OH.09 MEASUREMENT AND PAYMENT

A. Payment will be made at the lump sum price bid for each size and type of fabricated metal sliding gate.

RHCR 6.35OH.10 PRICE TO COVER

A. Payment will constitute full compensation for furnishing all plant, labor, supervision, materials, and equipment and performing all operations necessary for furnishing and installation of fabricated sliding gates as specified and as shown in the Contract Drawings.

Payment will be made under:

Item No.	Item	Pay Unit
6.35OH-1	Residential Overhead Door 1	L.S.

END OF SECTION

SECTION RHCR 8.23 BD – BULKHEAD DOOR

RHCR 8.23BD.01 DESCRIPTION.

This specification covers detailed requirements for an angled (bulkhead) basement door

RHCR 8.23BD.02 MATERIALS.

A. Dimensions for each door required are custom and should not be considered “off the shelf”, and are as shown on contract plans.

B. Basement Door assembly shall be constructed of .090 - .100 thickness steel and supplied with gas spring operators.

C. Additional top plates, side flanges, and extensions, constructed of the same material as the basement door to be supplied to fully enclose opening

D. FINISH. baked-on factory prime finish

E. HARDWARE. All hardware as required including assembly bolts and anchors for securing to masonry to be provided.

F. LOCK. Keyed lock to be supplied as per the manufacturer instructions

RHCR 8.23BD.03 ACTION SUBMITTALS.

A. Product Data: Manufacturer's data sheets on each product to be used, including:

1. Preparation instructions and recommendations.
2. Storage and handling requirements and recommendations.
3. Installation methods.

B. Shop Drawings: Indicate plans and elevations including opening dimensions and required tolerances, connection details, anchorage spacing, hardware locations, and installation details.

C. Selection Samples: For each finish product specified, two complete sets of color chips representing manufacturer's full range of available colors and patterns.

RHCR 8.23BD.04 EXECUTION.

A. Prepare surface for door installation. A smooth, solid concrete surface is required for doors to be attached and be watertight.

B. Where recommended or required by manufacturer install foundation plates Foundation plates.

C. Follow Manufacturer instructions for installation of doors

D. Ensure installation is watertight

RHCR 8.323BD.05 MEASUREMENT AND PAYMENT

A. Payment will be made at the lump sum price bid for each size and type of fabricated metal Bulkhead / Cellar door installed.

RHCR 8.23BD.06 PRICE TO COVER

A. Payment will constitute full compensation for furnishing all plant, labor, supervision, materials, and equipment and performing all operations necessary for furnishing and installation of bulkhead / Cellar Door as specified and as shown in the Contract Drawings.

Payment will be made under:

Item No.	Item	Pay Unit
RHCR 8.23BD-1	CUSTOM BULKHEAD DOOR (BLOCK 610 / LOT 23)	L.S.

END OF SECTION

SECTION RHCR 8.23 RD – CORROSION RESISTANT ROLLING SERVICE DOORS

RHCR 8.23RD.01 DESCRIPTION.

This section covers rolling service doors (both insulated and uninsulated types) and rolling fire doors. These doors are also referred to as overhead coiling doors.

RHCR 8.23RD.02 REFERENCES

A. Sheet Steel Gages: US Standard gage.

RHCR 8.23RD.03 PERFORMANCE SPECIFICATIONS

A. Wind Loading: Rolling doors shall withstand a wind loading pressure of 20 psf without damage to door assembly.

B. Counterbalance Assembly Shaft Deflection: Shall not exceed 0.03 inch per foot of span.

RHCR 8.23RD.04 ACTION SUBMITTALS

A. Shop Drawings: Show application to project.

B. Product Data: Catalog sheets, specifications, and installation instructions for rolling service door assemblies, rolling fire door assemblies, finishes, and operators.

1. Include complete data covering motors and controls for electric operation.
2. For each releasing device control panel, include:
   a. Electrical parameters.
   b. Detailed wiring diagram and written description showing and explaining proposed method of operation. (Format similar to fire door operation summarized under Releasing Device Control Panel specification.)
   c. Interconnection requirements for using the releasing device control panel in conjunction with the fire alarm system (or other specified initiating systems).

RHCR 8.23RD.05 MATERIALS

A. ROLLING DOORS

1. Complete overhead coiling door assemblies sized and arranged to suit opening sizes, conditions, and clearance limitations indicated on the Contract Drawings.

B. CURTAIN

1. Interlocking flat slats of cold roll formed ASTM A 653 galvanized sheet steel.
2. Slat Size: Not less than 2-1/2 inches high by 5/8 inch deep.
3. Slat Gage: Not less than 22 gage for service doors under 14 feet wide; not less than 20 gage for service doors 14 feet to 21 feet wide; not less than 18 gage for service doors more than 21 feet wide.
4. Slat Engagement Into Guides: Not less than 2 inches.
5. Endlocks: Malleable iron; riveted to each end of alternate slats for service doors less than 10 feet wide; riveted to each end of each slat for service doors 10 feet or more in width and all fire doors.
6. Windlocks: Malleable iron; riveted to each end of alternate slats for service doors 10 feet or more in width.

7. Bottom Bar: Galvanized steel angles not less than 1/8 inch thick, one each side, fastened with Type 316 stainless steel bolts and nuts.

C. GUIDES

1. Steel angles or sections, not less than 3/16 inch thick; upper ends flared or fitted with cast iron bellmouth for smooth curtain entry; depth sufficient for specified slat engagement; with windlock stop for curtains with windlocks.

D. END BRACKETS

1. Cast iron or steel, formed to close ends of hood, with self-aligning ball-bearing counterbalance supports.

E. COUNTERBALANCE ASSEMBLY

1. Springs: Helical wound oil-tempered steel torsion springs, designed with 25 percent overload factor, mounted on a cold rolled steel inner shaft.
2. Roller Shaft/Spring Enclosure: Steel pipe designed to support curtain and counterbalance mechanism within specified deflection tolerance.
3. Adjusting Device: Spring tension setting wheel, readily accessible.
4. Mechanism within pipe shaft shall be grease-packed.

F. HOOD

1. Not less than 24 gage galvanized sheet steel, reinforced top and bottom with stiffening returns.
   a. Hoods over 14 feet long shall have intermediate hood supports.

G. WEATHERSTRIPPING

1. Sill: Compressible and removable, neoprene tubular seal or looped astragal, attached to bottom bar.
2. Jambs: Continuous neoprene or vinyl baffle, attached to guide assemblies.
3. Head: Continuous neoprene or vinyl weather baffle, attached to door head, Intel or attached to inside of hood.

H. LOCKING DEVICE (FOR MANUAL OPERATION ONLY)

1. Suitable device for type of operation, designed to receive padlock. Device shall be located three feet above the floor, unless otherwise indicated.

I. FINISHES

1. Galvanizing: Unless otherwise specified or noted, items indicated to be galvanized shall receive a zinc coating by the hot-dip process, after fabrication, complying with the following:
   a. Sheet Steel: ASTM A 653, coating designation G 90.
   b. Iron and Steel Hardware: ASTM A 153.
   c. Plain and Fabricated Material, and Assembled Products: ASTM A 123.
2. Shop Painting: Paint complete door assemblies unless otherwise indicated.
   a. Galvanized Surfaces: Phosphate treatment, and manufacturer’s standard rust inhibitive metal primer coat.
   b. Ferrous Metal Surfaces: Manufacturer’s standard rust inhibitive metal primer coat after cleaning.

J. MANUAL OPERATION

1. Chain Hoist Operator:

a. Gear reduction drive, endless cadmium-plated alloy steel hand chain, mounted on counterbalance shaft, operating with not more than 35 pounds pull.
b. Gears cast from machine-cut patterns.
c. Chain locking bracket.

2. Crank Hoist Operator: Wall crank.
   a. Enclosed cast crank box, reduction gearing, and shafting; removable hand crank located 3 feet above floor.
   b. Gears cast from machine-cut patterns.
   c. Locking disc on crank box.

K. ELECTRIC OPERATION

1. General: UL listed electric operator assembly, complete with operator/motor unit, factory prewired motor controller, limit devices, and remote control stations. Motor shall be removable without disturbing the limit switch adjustment and without affecting the emergency release mechanism.
2. Side-Mounted Operator (for Doors up to 120 SQ. FT.): V-belt, chain or gearhead primary drive to suit door load and project conditions, roller chain secondary drive, adjustable safety clutch, solenoid operated brake, emergency release mechanism with chain hoist for manual operation, and interlock device to prevent motor from operating when release mechanism is activated.
3. Side-Mounted Operator (for Doors over 120 SQ. FT.): Heavy duty gear hoist type (worm and gear reduction drive in oil bath), solenoid operated brake, emergency release mechanism with chain hoist for manual operation, and interlock device to prevent motor from operating when release mechanism is activated.
4. Motor: Horsepower rating as required to open and close door at a speed not less than 0.67 fps without overload under any condition of operation.
   a. Motors shall comply with NEMA standards.
   b. Motors shall be designed to operate on single phase, 60 Hertz, 120 volt circuit (NEMA standard motor voltage 115V).
   c. Bearings: Equip motors 1/2 HP and larger with ball bearings.
   d. Housing: Drip-proof.
5. Reversing Magnetic Motor Controller:
   a. Manufacturer: Allen-Bradley Co.; Cutler-Hammer, Inc.; General Electric Co.; Square D Co.; Westinghouse Electric Corp.
   b. Enclosure: NEMA 1.
   c. Control Power: Control power transformer (maximum control voltage 120 volts) mounted within motor controller enclosure.
6. Remote Control Stations (Exterior): Key operated switch having OPEN, OFF, CLOSE positions, and with STOP push button.
   a. Enclosure: NEMA 3R, surface mounted unless otherwise indicated.
   b. Manufacturer: Allen-Bradley Security Push Button Station 800H-NX22A.
7. Safety Edge Device: Electric or pneumatic/electric safety switch, extending full width of door bottom, located within a rubber or neoprene astragal mounted to bottom bar. Upon contact with any obstruction, safety edge device shall immediately stop the downward travel of the door.

RHCR 8.23RD.06 EXECUTION

A. INSTALLATION

1. Install the Work of this Section in accordance with the manufacturer's printed instructions, except as shown or specified otherwise.
2. Field connections and fastening shall be as recommended by the door manufacturer for the conditions, unless otherwise indicated.
3. Install bracing and supports as necessary to rigidly secure door operating equipment and appurtenances.
4. Install junction box for wiring of safety edge device at mid-point of door travel. Connect flexible wiring to safety edge device and junction box with strain relief grips.

B. FIELD QUALITY CONTROL

1. Tests:
   a. Test all functions and features of each rolling door.

C. ADJUSTING

1. Adjust and lubricate doors and operating equipment to operate smoothly. Adjust door fit and weatherstripping to make a weathertight fit for the door perimeter.
2. Repair cut, welded, and abraded galvanized surfaces with a minimum 2 mil thick coating of cold galvanizing compound (containing 93 percent zinc) applied in accordance with manufacturer's instructions

D. CLEANING

1. lean doors, and clean work area surfaces that have been soiled performing the Work.

RHCR 8.23RD.07 MEASUREMENT AND PAYMENT

A. Payment will be made at the lump sum price bid for each size and type of fabricated rolling Door.

RHCR 8.23RD.08 PRICE TO COVER

A. Payment will constitute full compensation for furnishing all plant, labor, supervision, materials, and equipment and performing all operations necessary for furnishing and installation of fabricated rolling gate as specified and as shown in the Contract Drawings.

The lump sum price bid for each item is to include

1. Shop drawings signed/sealed by licensed NYS Professional Engineer
2. All Department of Building filings required
3. The rolling gate, complete including required finish
4. All submittals, testing and demonstrations required,
5. Shop and field inspection and testing,
6. All operating and control equipment for the rolling doors,
7. Field oversight and inspection by factory authorized representative,
8. Electric motors, conduit, wiring, and all accessories, and operating equipment to meet code and for the proper operation of the rolling doors gates,
9. Locking Devices doors manually operated
10. Accessories and appurtenances,
11. Incidental parts.

The Item Numbers for Furnishing, Delivering And Installing a Rolling Door with all appurtenances as described above will be made under the item number as calculated below:

The item number for furnish, delivering and installing the rolling door shall have nine characters. (The decimal point is considered a character, the second character.)

(1) The first five characters must define Furnishing, Delivering And Installing a Rolling Gate:

RHCR 8.23RD

(2) The sixth characters must define the rolling door type:

D = Door (slats)
C = Curtain

(3) The seventh characters must define the operation of the rolling door:

M = Manuel Operation
E = Electric Operation

(4) The eight Characters must define the Finish

G = Galvanized
P = Shop Painted

(5) The eight Characters must define the approximate Length

20 = 20-Feet
40 = 40-Feet
Etc.

The Item Numbers together with Description and Pay Unit as provided in the Bid Schedule are provided below:

Item No.	Item	Pay Unit
RHCR 8.23RDDEG22	ROLLING DOOR @ 116 BEARD STREET (22' LONG, BLOCK 604, LOT 1)	LS

END OF SECTION

SECTION RHCR 51.23 WT – WATERTIGHT MANHOLE FRAMES AND COVER

RHCR 51.23WT.01 DESCRIPTION

Watertight Manhole frames and grates to be installed on new manholes and/or retrofitted to existing manholes Manholes and constructed of the sizes and shapes shown and of the types specified complete with frames and covers.

RHCR 51.23WT.02 REFERENCE

A. AASHTO M306, Standard Specification for Drainage, Sewer, Utility, and Related Castings

B. AASHTO M105, Standard Specifications for Grey Iron Castings

RHCR 51.23WT.03 MATERIALS

A. Concrete must comply with the requirements of General Specification 11 - Concrete, as modified in NYC Department on Environmental Protection, Section 23.01.

B. Brick and brick masonry must comply with the requirements of NYC Department on Environmental Protection, Section 23.02.

C. Frames and covers must be of cast iron, unless otherwise shown on the contract plans, complying with the requirements of NYC Department of Environmental Protection Section 22.01, Type 1.

D. Vented Outer Frame and Cover

1. Castings must be manufactured true to pattern as per **NYC Department of Environmental Protection Standard Detail SE-29** and component parts shall fit together in a satisfactory manner.
2. Material: Gray Iron
3. Heavy Duty, exceeding requirements of HS-20
4. Frame and cover should be manufactured in accordance with AASHTO M105, AASHTO M306

E. Gasketed watertight manholes will be EJ Foundry ‘Campression’ Model or approved equal

1. Heavy Duty, exceeding requirements of HS-20
2. Meet performance requirements as stated in Section 51.23.03
3. Gasket: 3/8” neoprene or as recommended by Manufacturer
4. Material: Ductile Iron, Gray Iron
5. Frame and cover should be manufactured in accordance with AASHTO M105, AASHTO M306

F. Pre-Cast Concrete Collar

1. Concrete:
    a. 5,000 psi @ 28 days
    b. 5% - 8% entrained air
2. Rebar: ASTM A-615 grade 60
3. Design criteria:
    a. AASHTO HS-20 wheel load & applicable impacts
    b. Reinforcing cover per ACI 318

G. Riser Adjustment Ring

1. Dimensions and shape as required to match frame flange
2. Thickness as required to ensure top of frame is flush with roadway surface.

3. Hole pattern for bolts to match frame flange
4. Rubber composite (recycled rubber tires, fortifying additives and urethane binders)
5. Tensile strength: 145 (min) - 304 psi per ASTM D412-06
6. Durometer hardness: Molded surfaces 77A ± 5, ASTM D2240-05

RHCR 51.23WT.04 PERFORMANCE REQUIREMENTS

A. Watertight manhole assemblies must be able to and be tested to withstand 3-1/2 atmospheres of pressure (51.45 PSI Gauge) internal or external.

RHCR 51.23WT.05 CONSTRUCTION METHODS

A. RETROFIT EXISTING MANHOLE

1. The Contractor is responsible for breaking out and removing all manhole frames and covers at the locations shown, specified, or ordered by the Engineer. Upon removal, a new watertight twenty-seven (27) inch diameter cast iron manhole frame and cover assembly must be installed.
2. All courses of brick damaged or removed during removal of existing castings must be replaced.
3. The frames must be set on the masonry or concrete in a full bed of stiff fresh cement mortar and/or as shown on the contract documents and directed by the engineer.
4. The area of pavement damaged due to removal of castings must be repaired. The Contractor's attention is directed to the NYC Department of Environmental Protection, STANDARD FOR RECONSTRUCTION OF EXISTING MANHOLE AND REPLACEMENT OF EXISTING MANHOLE FRAME AND COVER.
5. All castings must become the property of and be disposed of by the Contractor

B. INSTALLATION ON NEW MANHOLE

1. Manholes to be manufactured and installed in accordance with NYC Department Of Environmental Protection (DEP) Standard Specification Section 51.21.
2. The brick masonry or concrete for the manholes must be built to within such distance of the final grade as shown, specified or ordered.
3. Watertight frame and grate assemblies shall be as shown on contract drawings.
4. The frames must be set on the masonry or concrete in a full bed of stiff fresh cement mortar and/or as shown on the contract documents and directed by the engineer.

RHCR 51.23WT.06 MEASUREMENT

The quantity to be measured for payment must be the number of watertight manhole frames and covers assemblies completely incorporated into the work as shown, specified or ordered.

RHCR 51.23WT.07 PRICE TO COVER

A. The contract price for Item No. 51.23RWT - REPLACEMENT OF EXISTING MANHOLE FRAME AND COVER must be the unit price bid per each manhole frame and cover assembly replaced and must cover the cost of all labor, materials, plant and equipment required or necessary to perform all work, including the removal and permanent restoration of surrounding pavements, excavation

and backfilling required, cleanup, and the doing of all work incidental thereto, all in accordance with the plans and specifications and as directed by the Engineer.

B. The contract unit price bid for Item No. 51.23NWT – NEW WATERTIGHT MANHOLE FRAME AND COVER ON NEW MANHOLE, will be any incremental cost to Item No. 51.21 MANHOLES to utilize a watertight manhole assembly in lieu of the Standard 27-Inch Manhole Frame and cover and must cover the cost of all labor, materials, plant and equipment required or necessary to completely install to the satisfaction of the Engineer.

Payment will be made under:

Item No.	**Item**	**Pay Unit**
RHCR 51.23RWT	RETROFIT WATERTIGHT MANHOLE FRAME AND COVER	EA
RHCR 51.23NWT	NEW WATERTIGHT MANHOLE FRAME AND COVER INCREMENTAL COST	EA

END OF SECTION

SECTION RHCR-055136 - PREFABRICATED MODULAR ALUMINUM STAIRS AND PLATFORMS

RHCR 055136.01 DESCRIPTION. Furnish and Install Metal Landing and Stairs

RHCR 055136.02 SUBMITTALS

A. Product Data:

1. Manufacturer's data sheets on each product to be used.
2. Preparation instructions and recommendations.
3. Storage and handling requirements and recommendations.
4. Typical installation methods.
5. Warranty Information
6. Shop Drawings: Include details of materials, construction and finish. Include relationship with adjacent construction.

RHCR 055136.02 QUALITY ASSURANCE

Installer Qualifications: Company specializing in performing Work of this section with minimum two years documented experience with projects of similar scope and complexity.

RHCR 055136.03 PRE-INSTALLATION CONFERENCE

Convene a conference approximately two weeks before scheduled commencement of the Work. Attendees shall include Architect, Contractor and trades involved. Agenda shall include schedule, responsibilities, critical path items and approvals.

RHCR 055136.04 DELIVERY, STORAGE, AND HANDLING

A. Store and handle in strict compliance with manufacturer's written instructions and recommendations.

B. Protect from damage due to weather, excessive temperature, and construction operations.

C. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's recommended limits.

RHCR 055136.05 MATERIALS

A. An engineered, no weld, modular system. Easily customized with re-usable components. Made for on-site assembly. Sturdy, Heavy Duty, Aluminum Construction. Suited for free-standing construction where required.

B. Capacity: Support 1000 lbs (453.6 kg) total load without failure.

C. Standards Requirements: Unit shall be designed and manufactured to meet or exceed OSHA 1910.25.

D. Degree of Incline: Between 25 and 45 degrees. Standard is 40 degrees.

E. Components:

1. Meet existing building code requirements for exterior stair case
2. All part, stairs treads, stringers, platform, railings, bolts, brackets and ancillary parts to be aluminum.
3. Complete system to come from one manufacturer

4. Width, length and run to be field measured and reflected in shop drawings for review and approval.

F. Product Warranty: 5 years from date of purchase subject to correct configuration and installation. Use and maintenance to be in accordance with manufacturer's specifications and recommendations.

RHCR 055136.06 EXECUTION

A. EXAMINATION

1. Do not begin installation until substrates have been properly constructed and prepared.

B. PREPARATION

1. Clean surfaces thoroughly prior to installation.
2. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
3. Dissimilar Metals:
    1. Aluminum to Concrete: To be painted with a bitumen paint.
    2. Aluminum to Stainless Steel: Brackets to be powder coated or EPDM separated.

C. INSTALLATION

Install in accordance with manufacturer's instructions, approved submittals, and in proper relationship with adjacent construction.

D. FIELD QUALITY CONTROL

Field Inspection: Coordinate field inspection in accordance with appropriate sections in Division 01.

E. CLEANING AND PROTECTION

1. Clean products in accordance with the manufacturer’s recommendations.
2. Touch-up, repair or replace damaged products before Substantial Completion.

RHCR 055136.07 MEASUREMENT AND PAYMENT

A. Payment will be made at the lump sum price bid for each size and type of PREFABRICATED MODULAR ALUMINUM STAIRS AND PLATFORMS.

RHCR 055136.08 PRICE TO COVER

A. Payment will constitute full compensation for furnishing all plant, labor, supervision, materials, and equipment and performing all operations necessary for furnishing and installation for each PREFABRICATED MODULAR ALUMINUM STAIRS AND PLATFORMS as specified and as shown in the Contract Drawings and approved shop drawings

Payment will be made under:

Item No.	Item	Pay Unit
RHCR 055136S1	ALUMINUM STAIRS AND PLATFORM (BLOCK 612, LOT 150)	LS

END OF SECTION

SECTION RHCR = 6.94 FGD Furnish, Deliver & Install Fiberglass Trench Drains

6.94FGD.1 INTENT.

This section describes the furnishing and installation of trench drains, as shown on the contract drawings and as directed by the Engineer.

The trench drains are designed to transmit stormwater runoff in a defined area to the closed drainage network in the roadway. The surface drainage system must be manufactured by:

(A) ACO Polymer Products, Inc., 12080 Ravenna Road, P.O. Box 245, Chardon, OH 44024; Tel: (800) 285-7000; Fax: (440) 285-7005.

(B) Jay R. Smith Mfg. Co., 2781 Gunter Park Drive East, Montgomery, AL 36109; Tel: (334) 277-8520; Fax: (334) 272-7396.

(C) Zurn, 1801 Pittsburgh Ave., Erie, PA 16502; Tel: (877) 987-6669; Fax: (814) 454-7929.

(D) Approved equal

Under this item, the Contractor must install all components of the trench drain including the trench system body and frame, in accordance with the plans, the specifications, and the direction of the Engineer.

6.94FGD.2 MATERIALS. Materials must comply with the following requirements:

(A) Trench drain channel – Must be manufactured from fiberglass with: a compressive strength of at least 32,000 psi; flexural strength of at least 24,000 psi; maximum water absorption rate of 0.33%. Fiberglass must be frost proof, salt proof, corrosion and chemical resistant.

(B) Custom Plate – Must be manufactured from T-316 stainless steel and must incorporate Nelson stud anchoring features to ensure maximum mechanical bond to the surrounding bedding material and pavement surface at 8" on center. Frame must be at least 3/16" thick. Snap fit studs supplied by the manufacturer must be used to connect the Custom plate to the fiberglass trench drain channel.

(C) Concrete encasement – Must comply with the requirements NYCDOT Standard Highway Specifications, **Section 3.05, Concrete.**

(D) Crushed Stone must comply with the requirement of the New York City Department of Environmental Protection (NYCDEP) Standard Sewer and Water Main Specifications **Section 40.12 - Crushed Stone Bedding For Sewers**.

(E) Plastic Filter Fabric must comply with NYCDOT Standard Highway Specifications, **Section 6.68.**

6.94FGD.3 METHODS.

(A) General – Channel drains must be pre-sloped to provide a minimum slope of 0.9% in the channel or as indicated in the contract drawings; top of grate is to be set level with adjoining grade. Interlocking units using tongue and groove connections must fully and evenly attach the channels. Efficient flow and self-cleaning characteristics must be provided by a curved channel bottom. Design flows must be as shown on the Drawings. All drain components, including those in the trench drain catch basins as well as the trench drains, must be the product of one manufacturer.

(B) Product Data – Provide manufacturer's information pertaining to all components of the proposed installation, including manufacturer's current recommended method of installation, including assembly and anchorage details. Provide sealant of type recommended by the trench drain manufacturer.

(C) Shop Drawings - Provide Shop Drawings that show the detailed layout of the drain system with all part numbers indicated in the proper sequence, the overall length of the system, the dimensioned location of plumbing outlet connections and the dimensioned location of the channel system.

(D) Delivery Storage and Handling - Protect the trench drain components and other materials of this Item from damage during delivery, jobsite handling and storage. Open pallets must not be stacked. Do not stack materials of other trades on top of components stockpiled at the jobsite. Protect the installed work and materials from damage.

(E) Examination - Prior to installation of the trench drain system, ensure that all excavations and other work required to be installed is done correctly. All trench units must be carefully inspected for defects immediately prior to laying or installing. No cracked, broken, or defective materials must be used in the work. If any defective piece must be discovered after having been laid or installed, it must be removed and replaced with a sound one in an acceptable manner at no cost to the City.

(F) Excavation, Subgrade Preparation, and subbase

(1) Excavate to the depth required subgrade as shown on contract drawings of all materials of whatever nature encountered in accordance with NYCDOT Standard Highway Specifications**, Section 4.11.**

(2) Compact subgrade and install crushed stone as show on contract drawings.

(G) Installation

(1) Install the trench drain system in strict accordance with manufacturer's recommendations and with approved Shop Drawings.

(2) Seal interlocking surfaces during installation. Clean all surplus sealant off of wetted surfaces and grate bearing areas before it hardens.

(3) Install the pre-sloped channels with the top edges level with adjoining surfaces.

(4) Laying Channels- Generally, channel laying must begin at the deepest section or at the catch basin. Bedding material must be adequate to provide support equal to the flatwork support grade. Lay channels in

numerical sequence with the arrow on the side of the unit pointing down-stream toward the lower end of the system. Fully center channel ends at joints and keep the inner surfaces reasonably flush and even. Seal the joints with sealant recommended by the trench drain manufacturer. Channels must be firmly anchored to the subgrade and grates must be installed across all joints so that the channels remain in position during concrete placement.

(5) The trench drain must be installed on a minimum 4-inch bed of crushed stone wrapped in plastic filter fabric. A minimum 6-inch concrete collar encasement must be placed all around the trench drain from the final grade surface to the top of the crushed stone bedding. The concrete surface must be level with adjoining final grade surfaces. The concrete collar encasement must be placed in formwork so as to provide a neat, straight face and edge all around the trench drain.

(6) Close end of each drainage run with an interlocking end cap. The end cap accessory material of construction must be fiberglass.

(7) After adjoining concrete flatwork has been placed and finished, reset and lock down all grates securely. Clean all concrete splatter and waste out of the system; do not plug or partially block drain outlets.

(8) Provide outlet connections as indicated on the Contract Drawings.

(H) Testing - After installation of units and sealant has cured, but prior to concrete encasement being poured, test the system to ensure that the water flows properly to the catch basins without ponding. Ensure temporary bracing of units is installed prior to testing. Remove and install sections as required and retest to ensure an even flow to the catch basins.

6.94FGD.4 MEASUREMENT.

The quantity of Trench Drain to be measured for payment must be the number of linear feet, measured to the nearest foot, furnished and installed to the satisfaction of the Engineer.

6.94FGD.5 PRICES TO COVER.

The contract price bid per linear feet of Trench Drain must cover the cost of all labor, materials, plant, equipment, samples, tests, insurance, and incidentals necessary to install the trench drain system of the sizes and dimensions specified, including, but not limited to, the earth excavation, concrete collar encasement, piping, connections to storm sewer, backfilling, cleaning up, and furnishing and installing trench drain, grates, end plugs, fittings, sealants, all other items necessary to complete this work all in accordance with the Contract Drawings, the specifications , and as directed by the Engineer.

Payment for the furnishing, delivering and placing of plastic filter fabric must be made under Item No. 6.68 - PLASTIC FILTER FABRIC.

Payment will be made under:

Item No.	Item	Pay Unit
RHCR -6.94 FGD	FURNISH, DELIVER & INSTALL FIBERGLASS TRENCH DRAINS	L.F.

PARKS - PAGES

SPECIAL PARKS SPECIFICATIONS

CONTRACT SANDRDHK

The specifications in the PARKS-Pages cover the construction of park amenities within and adjacent to Parks within the community of Red Hook, , including lighting, plumbing, paving, furnishings, plantings, and associated works as well as sewer works.

The PARKS-Pages supplement the specifications shown on the Specifications and Standards of New York City sheet at the beginning of this Volume 3, which apply to the work except as modified in these Contract Documents.

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TABLE OF CONTENTS

Section	Description	Page No.
SECTION 4.05 EAC - EXPOSED AGGREGATE CONCRETE		1
SECTION 6.18 PK – NYC PARKS STEEL FENCES AND GATES		10
SECTION 7.55 SS STAINLESS STEEL HANDRAIL		13
SECTION RHCR 9.95 G - DIMENSIONED GRANITE MASONRY		18
SECTION PK-13 - TYPE “K” COPPER TUBING		28
SECTION PK- 17 - CAST IRON VALVE BOX, 5 1/4" DIAMETER		32
SECTION PK 124 CATCH BASINS, DROP INLETS AND MA NHOLES		33
SECTION PK-143 - RPZ AND WATER METER		35
SECTION PK-637 – BOTTLE FILLER W/HI-LO DRINKING FOUNTAIN BASINS		42
SECTION PK-321 – STEEL FENCE AND GATES		48

[NO TEXT ON TH PAGE]

SECTION 4.05 EAC - EXPOSED AGGREGATE CONCRETE

4.05 EAC.1. INTENT. This section describes construction exposed aggregate concrete

4.05 EAC.2 DESCRIPTION. Under this item, the Contractor shall furnish and install Exposed Aggregate Concrete with wire reinforcing shaped in accordance with the plans, the specifications, and directions of the Engineer, in consultation with the City's Landscape Architect.

4.05 EAC.3 SPECIAL SUBMITTAL REQUIREMENTS & QUALITY CONTROL.

(A) ACTION SUBMITTALS

1. Product Data: For each type of product indicated: include recommendations for application and use; and, include test data substantiating that products comply with requirements.

2. Shop Drawings for the following:

    a. Logistics Plan indicating number and location of pours. Provide scaled and dimensioned drawings with square foot area calculations for pours.

    b. Expansion Joint and saw cut control joint layout – plan shall include all adjacent construction (such as planters, utility vaults, MTA vaults and structures, buildings, curbs, etc.)

3. Samples for Verification:

    a. Stone Aggregate (loose stone) – submit three (3) five (5) lbs. in bags of aggregate mix that represent a variance of three mixes of aggregate that meet the materials specification below and are a similar color match to adjacent "summer wheat" paver for approval by Landscape Architect.

    b. Colored Cement – submit 6" x 6" sample of integrally colored concrete.

4. Samples for Approval:

    a. Three 12" x 12" exposed aggregate concrete samples using the materials approved in **Subsection 4.05 EAC.4.**, below.

(B) INFORMATIONAL SUBMITTALS

1. Qualification Data: For concrete contractor.
2. Quality-Control Program.
3. Cleaning Program.

(C) QUALITY CONTROL

1. Source Limitations: Obtain each type of material for concrete sidewalk (stone aggregate, cement, sand, etc.) from one source with resources to provide materials of consistent quality in appearance and physical properties.

2. Quality-Control Program: Prepare a written quality-control program for this Project to systematically demonstrate that the manpower and equipment to be used are sufficient for the areas of pours that can be successfully cut for crack control, and the ability of personnel to properly follow methods of work and use materials and tools without damaging pavement. Include provisions for supervising performance and preventing damage or errors due to worker fatigue.

3. Cleaning Program: Prepare a written cleaning program that describes the cleaning process in detail, including materials, methods, and equipment to be used, protection of surrounding materials, and control of runoff during operations.

    a. If materials and methods other than those indicated are proposed for any phase of work, add to the Quality-Control Program a written description of such materials and methods, including evidence of successful use on comparable projects, and demonstrations to show their effectiveness for this Project and worker's ability to use such materials and methods properly.

    b. Cleaning and Appearance Standard: Cleaned, completed work surfaces are to have a uniform appearance to the satisfaction of the Engineer as viewed from 20 feet away.

4. Pre-Construction Conference: Conduct conference at Project site within 30 days of Notice to Proceed.

    The Contractor will arrange a pre-construction meeting on site to review the special conditions and requirements of the Exposed Aggregate Concrete. The meeting shall be attended by the Engineer, the Landscape Architect of Record, the concrete contractor (if different than the Contractor). Review methods and procedures related to exposed aggregate concrete sidewalks shall include, but not limited to, the following:

    a. Submittal Schedule: Contractor to provide a detailed schedule for submittals of Product Data.
    b. Review materials, material application, sequencing, tolerances, and required clearances.
    c. Review requirements for on-site Material Testing (Special Inspections) to be performed by an independent testing laboratory to be provided by the Contractor.
    d. Review requirements of Written Quality-Control Program.
    e. Review requirements of Cleaning Program.

f. Review special scoring requirements and techniques.

5. Mockups: Prepare at least three 5x 5 mock-up panels at the project site to demonstrate proficiency of the workmen and define the degree of aggregate exposure. These mock-ups will be approved by the Landscape Architect. Approved mock-up shall demonstrate aesthetic effects and set quality standards for materials and execution and for all exposed aggregate concrete work.

   a. Begin mock-ups only after approval of all Action Submittals and Information submittals.

   b. Control Joints: mockup shall include saw cut joints

   c. Cleaning: Clean entire mockup.

      i. Test cleaners and methods on samples of adjacent materials for possible adverse reactions. Do not use cleaners and methods known to have deleterious effect.
      ii. Allow a waiting period of not less than seven days after completion of sample cleaning to permit a study of sample panels for negative reactions.

   d. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless the Engineer specifically approves such deviations in writing.

   e. Due to the requirements listed above, the approved mockups may NOT become part of the completed Work.

   f. Mockup shall remain in place for the duration of the project or until a time when enough approved concrete is in place that the Engineer determines that the mockup is no longer required for reference and can be removed in order to install final pavement required by contract. Uniformity in appearance of the exposed aggregate shall be the responsibility of the Contractor. The approved mock-up shall serve as a standard of appearance for the final work.

6. Pre-Installation Conference: Conduct conference at Project site.

   a. The purpose of the Pre-Installation Conference meeting is to review all of the results of the submittal and mock up process and confirm methods and procedures related to exposed aggregate concrete sidewalks including, but not limited to, the following:

      i. Construction Schedule: Verify availability of materials, concrete personnel, equipment, and facilities needed to make progress and avoid delays.
      ii. Review materials, material application, sequencing, tolerances, and required clearances.
      iii. Update requirements of Written Quality-Control Program if required after approval of the mock up.

iv. Review requirements of Cleaning Program if required after approval of the mock up

4.05 EAC.4. MATERIALS

(A) Material for foundation shall be as per Subgrade Base Course Item No 6.67 except for the drainage area adjacent to the artwork which shall be Open Graded Stone Base Item BMP-GI-2.07D1. Refer plans for variable depths.

(B) Concrete shall comply with the requirements of Section 500 of the New York State Department of Transportation Standard Specifications, Type D Concrete Design Mix unless otherwise specified. Hand mixing shall not be permitted unless specifically authorized by the Engineer.

(C) Exposed Aggregate Material to be integrally mixed with concrete.:

1. Material: Selected, hard, and durable; washed; free of material that reacts with cementitious material or causes staining; from a single source, with fine aggregate and gap graded coarse aggregate as follows:

   a. Coarse Aggregate for intergration with concrete): Provide angular stone 1/4" to 3/16" maximum in size.
   b. Contractor to provide 5 lb bag samples of aggregate mix that will be similar match of color to adjacent summer wheat paver for approval by Landscape Architect (see submittals)

2. Exposed Aggregate Grading: Fine aggregate shall be 25 to 35 percent of total exposed aggregate material as recommended by the Portland Cement Association.

(D) Pigmenting material shall comply with the requirements of **Section 2.19 of the NYC Standard Highway Specifications, current edition**.

(E) There shall be no expansion joints in the exposed aggregate concrete

(F) Steel wire mesh reinforcement shall comply with the requirements of Section 4.14 of the NYC Standard Highway Specifications, current edition, as applicable.

(G) Surface Retarder: Waterborne, monomolecular, film-forming, for exposed aggregate concrete. "Lithotex Top Surface Retarder" as manufactured by L.M. Scofield, Co, or approved equal.

(H) Clear Sealer For Concrete Surfaces: Provide water based formulation, clear (non-yellowing), concrete sealer "Repello" as manufactured by L.M. Scofield Co. or approved equal. Sealer shall be compatible with coloring and surface retarder agents to be used for exposed aggregate concrete finishing.

4.05 EAC.5. METHOD

(A) EXCAVATION AND EARTH SUBGRADE: Excavation shall be made to dimensions sufficient to accommodate placement of foundation material and to permit the setting of forms.

The earth subgrade, immediately before foundation material is placed on it, shall be compacted to a minimum of 95 percent of Standard Proctor Maximum Density, smooth, parallel to and at the required depth below the finished sidewalk surface and be dampened with water sufficient only to be absorbed by the subgrade. The subgrade shall not be in a muddy or frozen condition and unsuitable material shall be removed and replaced with acceptable material thoroughly compacted.

(B) FOUNDATION: All existing material within the required of foundation be removed in its entirety and replaced with material complying with Subsection 4.15 (A), hereinabove. The excavated material will become the property of the Contractor and must be removed from the site to the Engineer's satisfaction.

Foundation material shall be placed on the prepared subgrade, in a manner to minimize segregation, using equipment and procedures approved by the Engineer. Uncontrolled spreading from piles dumped on the grade resulting in segregation will not be permitted. Foundation material shall then be wetted to the optimum moisture content, based on a laboratory 5 point Proctor density test, and thoroughly compacted using an approved plate compactor into a course not less than twelve (12”) inches thick. Compaction of foundation material shall range between 90% and 95% of the Standard Proctor Maximum Density, as directed by the Engineer, depending upon material used. Unsatisfactory subgrade material shall be removed and replaced with acceptable material thoroughly compacted to a minimum of 95% of Standard Proctor Maximum Density. The top surface of the foundation material shall mounded up to a height as per the plans and at a distance below the grade equal to the specified thickness of concrete. Additional depth of foundation material for special conditions will be placed as directed by the Engineer.

(C) FORMS: Forms shall be made of substantial material (preferably steel) with suitable metal dividing plates and of sufficient strength to satisfactorily resist distortion when fastened together and secured in place. Forms and dividing plates shall be of a depth not less than that of the concrete sidewalk, be properly located with tops set to the designated sidewalk surface and be left in place until the concrete has hardened.

(D) REINFORCEMENT:, The Contractor shall furnish and install a welded wire fabric, under Item No. 4.14 W, as per the New York City Department of Transportation’s Standard Details of Construction Standard Drawing No. H-1045. The wire fabric reinforcement shall be laid in sheets which are straight and true to form and shall be securely held in position by approved methods so that they will be in their prescribed position after the concrete has been placed.

(E) CONTROL JOINTS. Control joints one-eight (1/8”) inch wide saw cut not less than three-quarter (3/4”) inch in depth and located on the mound as per the shop drawings or as directed by the Landscape Architect.

(F) EXPANSION JOINTS: There shall be no expansion joints in the exposed aggregate concrete

(G) CONCRETE COURSE: Foundation material shall be thoroughly wetted, to the satisfaction of the Engineer, immediately before concrete is placed. The greater the porosity of the material (i.e. broken concrete), the more water required to prevent water absorption from the concrete. The concrete shall be placed within the forms and thoroughly tamped until the surface is at the finished grade.

The slopes on the exposed aggregate concrete shall be no greater than 5%. Hand operated immersion type vibrators shall be used to thoroughly consolidate the concrete along forms. Vibrators shall not come in contact with forms, shall not be used for moving concrete in the work, and in no case shall any vibrator be operated longer than four (4) seconds in any one location. The Contractor is required to furnish a minimum of three (3) hand operated immersion type vibrators to the job site, one of which shall be used as a backup for the other two.

(H) PIGMENTING: The exposed aggregate concrete shall be integrally pigmented with an admixture complying with the requirements of **Section 2.19 of the NYC Standard Highway Specifications, current edition** and the color as approved by the Landscape Architect of Record.

Prior to Commencement of Work, the Contractor shall submit the name of its proposed exposed aggregate installer upon which his bid is based, along with their respective work history experience in placing pigmented concrete. The installer shall have documented experience in working with pigmented concrete.

Prior to making any field samples and the placing of any pigmented concrete, the Contractor, its concrete supplier, installer, cement producer, laboratory, the pigmented admixture’s representative, and the Engineer shall meet and agree on the specifications and methods of handling the pigmented concrete.

Variations in color/tint/hue will not be acceptable. Therefore, the same brand and type of cement and the same source and type of aggregate shall be used throughout the project.

Prior to the mix design being made, the cement intended for use shall be checked to determine that its lightness/darkness is similar to the cement used in the original approved sample. The Pigmented Admixture shall be added in the standard proportion specified by the manufacturer. No fly ash or other admixtures (including, but not limited to, calcium chloride) shall be used except an air-entraining agent complying with ASTM Designation C 260, when directed by the Engineer.

Prior to commencing the placement of concrete, but after acceptance and approval of the pre-construction field sample, the Contractor must submit properly labeled and identified samples of materials used in the approved sample, as follows:

Coarse Aggregate	20 pounds
Fine Aggregate	20 pounds
Cement	20 pounds
Pigmented Admixture	1 pint
Joint sealer	2 linear feet
Surface sealer	1 pint
Mix design	1 certified copy

These samples shall be stored where directed by the Engineer and shall constitute material standards for the project. During construction, one (1) pint of cement from each load of cement delivered to the plant to be used in this specific job shall be retained and, after comparison with retained master sample, dated and stored with other retained samples. Aggregate source shall also be checked periodically, as directed by the Engineer, and compared with retained samples.

(I) SURFACE FINISH:

General: Do not use tools such as jitterbugs that force the aggregate away from surface.

1. After screeding and consolidating concrete slabs, do not work surface until ready for floating.
2. As soon as concrete will support the mason on knee-boards, float the surface to bring grout to the surface, completely surrounding the aggregate and filling all surface voids. Float to a uniform appearance.
3. Exposing Aggregate: Proceed as soon as the surface grout can be removed by simultaneous brushing and flushing with water without overexposing or dislodging the aggregate. Avoid traffic on the concrete during this operation. High pressure water may be used if desired finish is more easily achieved without harm to the concrete. Use same method of exposure, either with or without retarder, throughout the job.
4. Liquid Chemical Hardener Finish: Apply chemical hardener finish after complete curing and drying of the concrete surface. Mock ups for exposed aggregate concrete pavement shall determine the duration of time that the surface retarder is left in place before being washed off in order to achieve the desired exposed aggregate effect.

   Dilute liquid hardener with water, and apply in three (3) coats; first coat, 1/3 strength; second coat, 1/2 strength; third coat, 2/3 strength. Evenly apply each coat, and allow 24 hours for drying between coats.

5. Control Joints: Unless otherwise specified in the contract documents, shrinkage control joints in the concrete surface shall be scored by sawcutting one-eight (1/8”) inch wide and three-quarters (3/4”) deep immediately after the concrete has reached its initial set which is typically anywhere from 4 to 8 hours after the concrete has been poured, depending upon the weather, but in no case shall it be later than 12 hours after pouring. All sawcuts are to be straight, clean, and of consistent width. Joints are to be either perpendicular to the art work

or special scoring pattern, as shown on the contract drawings. Where sawcut joints intersect other sawcut joints overrunning cuts (into the adjacent panel) will not be acceptable. There shall be no overruns into abutting permeable pavers. Permeable pavers cut by overruns will be replaced at contract contractors own expense.

(J) SURFACE CURING, PROTECTION, AND SEALING: Pigmented concrete sidewalk shall be covered with a clear curing membrane complying with the requirements of **Section 2.19 of the NYC Standard Highway Specifications, current edition**.

When applied to freshly placed damp concrete at the rate of one gallon per one hundred fifty (150) square feet, it shall provide a curing membrane displaying the following properties:

1. Drying. The compound shall produce a uniform coating at a minimum temperature of 40 Deg. F. and shall dry tack-free within four (4) hours.
2. Permeability. The moisture loss through the membrane shall be no more than 0.04 grams per square centimeter of surface area after three (3) days.
3. Durability. The membrane shall remain intact for at least seven (7) days.

Curing compound for pigmented concrete shall be delivered to the Project only in the manufacturer's original containers which shall be legibly marked with the manufacturer's name, trade name, batch number and date. One batch number shall be used to represent not more than one formula. The containers shall only be opened in the presence of the Engineer.

After their use and prior to their disposal, the Contractor shall have available, for inspection by the Engineer, the empty compound containers, and may dispose of them only after certification by the Engineer. The re-use of any of the containers will be permitted only if approved by the Engineer.

Curing compounds shall be sprayed on the exposed concrete surfaces prior to the hardening of the sidewalk concrete and immediately after the concrete water sheen has disappeared. The application of the compounds shall comply with the requirements of **Section 2.14 of the NYC Standard Highway Specifications, current edition.** The treated surfaces shall be protected from injury for at least ninety-six (96) hours.

Where the Contractor fails to cure the concrete sidewalk in accordance with the requirements of this provision, the Contractor will be required, at no additional cost to the City, to replace, in its entirety, any sidewalk slab which did not receive, in part or in whole, the specified cure.

Concrete sidewalk shall be carefully protected against injury from rain, frost, the drying effects of the sun and wind, traffic or other causes, by means of suitable guards and covering.

(K) MEETING GRADES: Exposed aggregate concrete shall be installed after installation of artwork and before installation of surrounding permeable pavers. Contractor must ensure all grades at the edge of the work are correct and meet flush with surrounding features.

(L) CONCRETE SURFACE REPAIRS

1. Patching Defective Areas: Immediately cut out honeycomb, rock pockets, voids over 1/4 inch (6.35 mm) in any dimension, and holes left by tie rods and bolts, down to solid concrete but, in no case to a depth of less than one (1) inch (25 mm).
   a. Cut edges perpendicular to concrete surface.
   b. Thoroughly clean, dampen with water, and brush coat area to be patched with neat cement grout or proprietary bonding agent before placing cement mortar or proprietary patching compound.

2. Remove and replace concrete with defective surfaces if defects cannot be repaired to satisfaction of SDR.
   a. Surface defects include color and texture irregularities, cracks, spalls, air bubbles, honeycomb, rock pockets, fins and other projections on surface, and stains and other discolorations that cannot be removed by cleaning.
      i. Dampen concrete surfaces in contact with patching concrete and brush with neat cement grout, or apply concrete bonding agent.
      ii. Mix patching concrete of same materials to provide concrete of same type of class as original concrete.
   b. Place, compact and finish to blend with adjacent finished concrete. Cure in the same manner as adjacent concrete.

4.05 EAC.6 MEASUREMENT. The area of concrete sidewalk in square feet and the amount to be paid for shall be determined by cores as provided in **Section 5.04 of the NYC Standard Highway Specifications, current edition**.

4.05 EAC.7 PRICE TO COVER. The contract price per square foot for exposed aggregate concrete shall cover the cost of all labor, materials, equipment, insurance, and incidentals required to construct the exposed aggregate concrete of the thickness specified, complete in place including, but not limited to, pigment, exposed aggregate surface treatment, wire mesh, saw cut type joints, special scoring, curing, in full compliance with the requirements of the specifications.

Payment will be made under:

Item No.	Item	Pay Unit
4.05 EAC	7” THICK EXPOSED AGGRERGATE REINFORCED CONCRETE PAVEMENT	S.F.

END OF SECTION

SECTION 6.18 PK – NYC PARKS STEEL FENCES AND GATES

6.18 PK.1 INTENT. This section describes a NYC Parks Steel Fence and Gates

6.18 PK.2 DESCRIPTION. Under this Items, the Contractor must furnish and erect steel fences and Gates of the types and sizes shown on the plans, in accordance with the plans, specifications, and directions of the Engineer.

6.18 PK.3 MATERIALS.

(A) FENCES AND GATES. Shall be constructed of solid bars, posts, and rails of the sizes shown on the plans unless specifically noted as lightweight. All material shall conform to Specification ASTM A36.

(B) HINGES: shall be Stanley #BB855, Heavy Duty Steel Ball Bearing Hinge, 5” x 6”, as manufactured by Stanley Hardware, New Britain, CT, Shannon Gates and Railings, Deer Park NYor approved equal.

(C) LOCK BOLT- Double Gates: Shall be a drop rod bar arranged to engage the gate stop. Locking device shall be constructed so that the drop rod cannot be raised when the gate is locked. The locking bolt and bolt catch hardware shall be constructed as shown on the standard detail drawings.The locking device shall have provisions for a padlock. All necessary fittings and gate holders to lock gates in both open and closed positions shall be furnished. The locking device shall be as manufactured by Shannon Gates and Railings, Deer Park NY, or an approved equal locking device.

(D) GATE LATCH – Single Gates: Shall be a lockable stirrup type. Latch shall be constructed of steelbars and blocks with a stainless steel pin, as shown on the drawings. The ends of stirrups shall be treated with a heavy-duty flexible, rubberized coating such as *Plastidip* as manufactured by P.D.I.Inc., Circle Pines, MN, or approved equal.

(E) PADLOCK: The Contractor shall furnish one padlock for each single gate and each leaf of doublegates. The padlocks shall be American No. 5571 as manufactured by American Lock Co., Crete, IL., or approved equal. All padlocks for the same park facility shall be keyed alike, with two inch(2") wide by three-quarter inch (3/4") thick brass body, maximum security, five (5) pin tumblers with hardened alloy steel chrome plated shackle no less than three-eighth inch (3/8") diameter andtwo inch (2") clearance (elongated shackle). A galvanized steel chain, nine inches (9") long shall be fastened to the gate and body of the lock. The chain shall be five-sixteenths inch (5/16") by one and three-eighths inch (1 3/8"). The Contractor must furnish two (2) keys for each padlock.

(F) CAST IRON PARKS LEAF – Double Gates: The Park Leaf casting shall be as manufactured by Wemco Castings, Bohemia, N.Y, or approved equal. The NYCDPR retains exclusive right to theuse of the pattern. Leaf castings are to be fabricated from Ductile Iron 65-45-12. The small 9 1/2”leaf shall weigh approximately six pounds (6 lbs.) each. The back of the leaf casting is to be flatand the front face shall be contoured with the veins of the leaf shown

in relief. See Contract Drawings for structural details.
Park leaves shall be welded to each leaf of the steel gate in the shop. Field welding will not be permitted.

(G) GROUT: Grout for fence posts shall be non-shrink, cement based grout such as Sonogrout 10K as manufactured by BASF Building Systems, Shakopee, MN or SikaGrout 212, as manufactured bySika Corporation, Lyndhurst, NJ, or approved equal.

(H) SEALANT: Sealant around fence post shall be one part polyurethane, elastomeric adhesive suchas MasterSeal CR 195, as manufactured by BASF Building Systems, Shakopee, MN or Sikaflex-1a, as manufactured by Sika Corporation, Lyndhurst, NJ, or approved equal.

(I) PAINTING: The fences and gates shall receive three (3) coats of paint. The first coat shall be shop applied; the second and third coat shall be field applied. Immediately prior to painting, all surfaces of fences and gates shall be thoroughly free of debris. All surfaces that are rust free shallbe treated in accordance with SP-1, Solvent Cleaning. Treatment shall be performed with a solventsuch as mineral spirits, xylol, or turpentine to remove all dirt, grease, and foreign matter. Surfacesthat show evidence of scale and rust shall be cleaned in accordance with SP-2, Hand Tool Cleaning, a method generally confined to wire-brushing, sandpaper, hand scrapers, or hand impact tools or SP-3, Power Tool Cleaning, a method generally confined to power wire brushes, impact tools, power sanders, and grinders in order to achieve a sound substrate. After the fence and gates have been cleaned and prepared, they shall be painted as follows:

First Coat (Shop Applied): D.T.M.(Direct to Metal) Alkyd semi-gloss P24, as manufactured by Benjamin Moore & Co., Montvale, NJ, or Kem Bond® HS Metal Primer, B50NZ3, red oxide, asmanufactured by Sherwin Williams Company, Woodside, NY, or approved equal. Primer shall be a fast drying, 53 to 61% weight solids, low VOC, rust inhibiting, modified alkyd metal primer witha dry film thickness of 1.7 - 5 mils. Paint requires up to two (2) to two and a half (2 ½) hours drying time before recoating (with alkyds).

Second Coat and Third Coats (Field Applied): D.T.M.(Direct to Metal) Alkyd semi-gloss P24, Safety Black, as manufactured by Benjamin Moore & Co., Montvale, NJ, or Steel Master 9500 Silicone Alkyd, as manufactured by Sherwin Williams Company, Woodside, NY, or approved equal. Color to be Black unless otherwise shown on the contract drawings. Topcoat shall be a silicon alkyd, semi or high gloss coating having a dry film thickness of 1.7 - 3 mils. Paint requiresup to thirty (30) hours drying time @ 50º F; up to sixteen (16) to eighteen (18) hours drying time @ 77º F. Paint adhesion shall be 100% retention in accordance with ASTM D3359, classification5B.

All paints shall be applied when ambient air temperature is 50^0F minimum and rising. No paintingwill be allowed below the minimum ambient air temperature. Surfaces to be painted shall be moisture free. In addition, no painting will be allowed below the temperature at which moisture will condense on surfaces. Refer to the Dew Point Chart in Section C, Article 16 to find the minimum allowed moisture free temperature.

6.18 PK.4 METHOD

The fences shall be erected in holes that have been formed in the concrete orstone to receive them.

After the posts have been set in place and properly supported to hold them in line and grade, the annular space shall be filled with the specified non-shrink, cementitious grout. The grout shall be flush with the concrete curb. After the grout has cured, the Contractor is to install polyurethane sealant around the fence post. Sealant shall be gunned in between the baseof the fence post and the concrete curb. Sealant shall be applied in strict accordance with the manufacturer's instructions, and shall be tooled in as required. **Note: All gypsum (Calcium Sulfate, CaSO4) based grout will be rejected.**

Any fences and gates not set plumb and true to line and grade shall be removed and replaced at the Contractor's expense. The Contractor must maintain the fences and gates during the life of thecontract and shall repair replace all members that are disturbed, damaged, or destroyed.

Shop Drawings: shall be submitted prior to manufacture.

SAMPLES: The Contractor shall submit for the approval finished samples of parts of the fences. The workmanship and finish of the final product must be equal to the approved samples. Only if proposed manufacturer is other than as specified, a full size sample must be submitted for approvalfor the following: Gate latch for single gate, padlock, cast iron parks leaf.

FOUNDRY CERTIFICATE: A certificate verifying the quality of ductile iron for the Parks Leaf shall be submitted. Certificate shall be on Manufacturers' letterhead, dated and signed by the company President with Contract Number, Contract Title, Contractor Name, and Class of DuctileIron provided.

PAINT SUBSTITUTION: A written request for paint substitution must be submitted to the DPR Coordinator of Submittals. The Contractor shall submit this request, along with manufacturer's data sheets for approval, a minimum of two (2) weeks prior to the intended date of paint application. All paint substitutions must be approved in writing prior to use.

6.18 PK.5 MEASUREMENT

The quantity of Steel Fence to be paid for must be the number of linear feet of each type fence furnished and erected complete, in accordancewith the plans, specifications, and directions of the Engineer.

The quantity of Gates to be paid for shall be the number of each size (including both leaves of double gates and gate posts) furnished and erected complete in accordance with the plans, specifications, and directions of the Engineer, including Park leaf castings where double gates arespecified, locking devices, gate stops, and padlocks.

6.18 PK.6 PRICE TO COVER

The prices bid must be unit prices per liner feet of Steel Fence of each type and a unit price for each gate and will include the cost for all labor, materials, hardware, equipment, insurance, and incidentals necessary to furnish and erect fences and gates, including painting, grout, sealant, and all incidental expenses necessary to complete the work in accordance with the plans and specifications, to the satisfactionof the Engineer.

Payment will be made under:

Item No. Item	Pay Item	Pay Unit
6.18 PK SF2	STEEL FENCE 2'-6" HIGH	LF
6.18 PK SG2	SINGLE GATE FOR STEEL FENCE 2'-6" HIGH	EA

END OF SECTION

SECTION 7.55 SS STAINLESS STEEL HANDRAIL

7.55SS.1. INTENT. Under this section, the Contractor shall furnish and install fully welded, custom-fabricated, stainless steel railings including: Stainless Steel Handrail, and Stainless Steel Planter Guard; all in accordance with the drawings, the specifications, and the directions of the Engineer.

7.55SS.2. REFERENCES.

(A) American National Standards Institute (ANSI)
A117.1 Accessible and Usable Buildings and Facilities

(B) American Society for Testing and Materials (ASTM)

(C) American Welding Society (AWS) Structural Welding Code

(D) All railings must meet ADA requirements.

(E) Provide railing conforming to AASHTO 2.7.3-Pedestrian Railings.

7.55SS.3. SUBMITTALS. Follow the procedures in the General Conditions of **Section 1.06.31** of the NYCDOT Standard Highway Specifications.

(A) Submit product data for each product used including but not limited to stainless steel tubing, sheet, and bar stock. The Contractor shall submit splice locations and splice details to the Engineer as part of shop drawings.

(B) Follow the requirements of the Section 1.06.13 of NYCDOT Standard Highway Specifications for submission of the shop and working drawings. Submit shop drawings showing fabrication and installation of stainless steel railings, inserts including dimensioned elevation and details of components and attachments to other units of work. Indicate materials, profiles of each member and fitting, joinery, splices and concealed connections for expansion, finishes, fasteners, anchorages and accessory items. Shop drawings shall incorporate accurate, field-verified topographic elevations and dimensions. Show and identify adjustments in the work made to accommodate field conditions, if any. Identify field dimensions. Include design loads. Include setting drawings, templates and directions for installation of anchorages to be installed as unit of work of other sections. Provide clear indication of alloy types covering each condition. All shop drawings for items under this Section shall be coordinated and submitted concurrently.

(C) Samples for verification purposes of type of metal prepared of metal of same thickness and alloy indicated for final unit of work. Where finishes involve normal color and texture variations, include sample sets composed of two or more units showing full range of variations expected.

1. Provide three (3), 12 inch long samples of all linear shapes

2. Provide one (1) mock-up for splice of each railing type.

3. Provide mock-up of six linear feet of each railing type.

7.55SS.4. QUALITY ASSURANCE. Contractor shall provide the following qualifications:

Fabricator Qualifications: Firm experience in successfully producing stainless steel railings similar to that indicated for this project, with sufficient production capacity to produce required units without causing delay in the work.

Installer Qualifications: Arrange for installation of stainless steel railings specified in this section by a firm experienced in the installation of railing work of type and extent specified.

7.55SS.5. MATERIALS. Provide stainless steel railings composed of metals of the forms and types which comply with requirements of referenced standards and which are free from surface blemishes where exposed to view in the finished unit. Exposed-to-view surfaces exhibiting pitting, seam marks, roller marks, “oil canning”, stains, discolorations, or other imperfections on finished units are not acceptable.

Stainless steel tube, sheet, and bar stock shall be Type 304 and 316 alloys, ASTM A 554, #4 maintenance-free finish. Alloy shall be Type 304 except where Type 316 is indicated on Contract Drawings. Standards for tube and pipe shall be ASTM A 312. Bars and shapes shall be ASTM A 276. Plate shall be ASTM A 240 or ASTM A 666. All railings and posts shall be fitted with end caps.

Bolts, nuts, and washers and other fittings for attachment and anchorage shall be stainless steel Type 316 unless indicated otherwise on Contract Drawings.

Non-Shrink Grout: for anchoring handrail supports in concrete or stone masonry, shall be two-part epoxy grout, compatible with sealant.

Acceptable Fabricators: Subject to compliance with requirements, fabricators offering stainless steel railing systems and that may be incorporated in the work include the following:

1. L & J Specialty Corporation
   2671 Bobmeyer Rd
   Fairfield, OH 45014
2. Daniel Industrial Metals, Inc.
   6045 Southern Industrial Dr
   Birmingham, AL 35235
3. Architectural Metal Works
   153 E Oakwood St.
   Tarpon Springs, Fl. 34689
4. R. J. Donaldson, Inc.
   1287 Glassboro Rd.
   Williamstown, NJ 08094
5. or approved equivalent.

PROJECT CONDITIONS. Take field measurements prior to preparation of shop drawings and fabrication, to ensure proper fitting of stainless steel components on granite, concrete, and steel surfaces.

DELIVERY, STORAGE AND HANDLING. Store stainless steel railing components and materials in clean, dry location.

7.55SS.6. METHODS.

(A) The Contractor will be required to manufacture, install, and protect the railings as shown on the Contract Drawings and in accordance with approved shop drawings to be furnished by the Contractor prior to fabrication.

(B) Performance Requirements

1. Engineer stainless steel railing to withstand structural loads indicated, and determine allowable design working stresses of railing materials based on ASCE 8, “Specification for the Design of Cold-Formed Stainless Steel Structural Members.”

2. Thermal Movements: Provide railings that allow for thermal movements resulting from the following maximum change (range) in ambient and surface temperatures preventing buckling, opening of joints, overstressing of components, failure of connections, and other detrimental effects. Base engineering calculation on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.

    a. Temperature Change (Range): 67 deg. C, ambient; 100 deg. C, material surfaces.

3. Control of Corrosion: Prevent galvanic action and other forms of corrosion by insulating metals and other materials from direct contact with incompatible materials.

(C) Fabrication

1. Assemble railings in the shop to greatest extent possible to minimize field splicing and assembly.

2. Fabrication and welding to comply with NYSDOT Steel Construction Manual.

3. At exposed connections, finish exposed surfaces smooth and blended so no roughness shows after finishing and welded surface matches contours of adjoining surfaces.

4. Fabricate anchorage devices capable of withstanding loads imposed by railings.

5. Accurately form curved elements of railings to radii indicated on the drawings, without kinks. Where curvature is required is required on sloping railings, curvature shall be accurate in horizontal dimension while also providing the required slope.

6. Tolerances: Railings shall be fabricated to the following tolerances: within 1/8” from plumb in all directions for 36” vertical distance. Maximum variation from flush conditions for all elements

shall be 1/16". Maximum variation in horizontal alignment from true dimensions for top rails shall be 1/4". Maximum variation from true vertical alignment of railings shall be 1/4".

7. Cut, drill, shear, and punch metals cleanly and accurately. Remove burrs from exposed cut edges. Ease exposed edges to a radius of approximately 1mm, unless otherwise indicated.

8. Provide weep holes or another means to drain entrapped water in hollow sections of railing members that are exposed to exterior or to moisture from condensation or other sources.

9. Fabricate joints in watertight manner.

10. Coordinate and furnish anchorages and setting drawings, diagrams, templates, instructions and directions of installation of items having integral anchors which are to be embedded in other construction, if any. Coordinate delivery of such items to the project site.

(D) Installation

1. Provide anchorage devices and fasteners where necessary for securing railing systems to in-place construction; and other connectors as required.

2. Perform cutting, core-drilling and fitting required for installation of railing. Set products accurately in location, alignment and elevation, plumb, level and true, measured from established lines and levels. Set posts plumb within a tolerance of 1/32" per feet and align rails so variations from level for horizontal or from parallel with wall slope do not exceed 3/16" per 10 Feet. Holes to receive railings shall be cleanly core-drilled in granite and other masonry surfaces using the smallest size diameter to fit the supports, with not more than 1/8" additional diameter. Holes shall be accurately located per layout plans, and railing shop drawings shall be prepared to fit the hole locations as field-verified. The holes shall be of the depths indicated on the Contract Drawings, or eight inches, whichever is greater. Care shall be taken while drilling in granite such that no damage will be done. Any damage to masonry surfaces resulting from drilling operations shall be remediated by the Contractor at no additional cost to the City, which may include replacement of whole granite units. No repair of granite involving gluing or patching will be allowed.

3. For railing installation at concrete and granite surface, the railings shall be erected as detailed on Contract Drawings. After posts have been set in place and properly supported to hold them to line and grade, the annular space shall be filled level or slightly higher than top surface with non-shrinking grout. For sloped surfaces, non-shrink grout shall be poured 0.25" low; after the grout has hardened, any remaining depression on sloped holes shall be filled and screeded flush with stiff mixture of epoxy grout matching color of concrete. In no case should sealant protrude above finish grade. Mask around drill holes as necessary to prevent sealant from contacting or staining adjacent surfaces.

4. Fit exposed connections accurately together to form tight, hairline joints or, where indicated, with uniform reveals and spaces for sealants and joint fillers. Where cutting, welding and grinding are required for proper shop fitting and jointing of ornamental metal items, restore finishes to eliminate any evidence of such corrective work.

5. Do not cut or abrade finishes that cannot be completely restored in the field. Return items with such finishes to the shop for required alterations, followed by complete refinishing or provide new units as required.

6. Field Welding: Comply with applicable AWS specification for procedures of manual shielded metal-arc welding, for appearance and quality of welds made, and for methods used in correcting welding work. Weld connections that are not to be left as exposed joints, but cannot be shop welded because of shipping size limitations. Grind exposed welded joints smooth and restore finish to match finish of adjacent rail surfaces.

(E) Protection

1. Protect finish of railing systems from damage during construction period by use of temporary protective coverings approved by stainless steel fabricator. Remove protective covering as soon as need for protection has passed, but no later than time of Substantial Completion.

2. Restore protective coverings that have been damaged during shipment or installation of the work. Remove protective coverings only when there is no possibility of damage from other work yet to be performed at the same location. Retain protective coverings intact and remove simultaneously from similarly finished items to preclude non-uniform oxidation and discoloration.

3. Restore finishes damaged during installation and construction period so that no evidence remains of correction work. Return items which cannot be refinished in the field to the shop; make required alterations and refinish entire unit, or provide new units as required.

7.55SS.7. MEASUREMENT. The quantity to be measured for payment shall be:

STAINLESS STEEL HANDRAIL: The number of linear feet of stainless steel railing measured along the center line of the railing, actually installed to the satisfaction of the Engineer, irrespective of wall- or ground-support.

7.55SS.8. PRICES TO COVER. The unit price bid per linear foot for all railings shall cover the cost of all labor, material, plant, equipment, insurance, and incidentals necessary to furnish and install stainless steel railings, but not limited to, all railings, posts, wall-supports, brackets, expansion joints, drilling of holes, welding, and shop drawings to complete the work, all in accordance with the Contract Drawings, the specifications, and the directions of the Engineer.

Payment will be made under:

Item No.	Item	Pay Unit
7.55 SS1	STAINLESS STEEL HANDRAIL, SINGLE-SIDED	LF

END OF SECTION

SECTION RHCR 9.95 G - DIMENSIONED GRANITE MASONRY

9.95G.1. DESCRIPTION. This Section describes the furnishing and installation of all dimensioned granite masonry indicated, including Granite Stair Treads, Granite Block Seating, Granite Slab Paving, and Granite Veneer, in accordance with Contract Drawings, the specifications and the directions of the Engineer. This section does not pertain to granite street curbs, which are specified in **Section 4.07** of the NYCDOT Standard Highway Specifications, to Granite Block Pavers, which are specified in **Section 6.04 of the NYC Standard Highway Specifications, current edition**, or to Granite Seating Installation, which are specified in **Section 9.95**.

9.95G.2. MATERIALS

(A) Stone Materials

All stone shall be carefully selected, from sound stock, and free from defects impairing strength, durability or appearance, such as cracks, seams, starts, holes, flaws, or imperfections, which have been patched or filled. All stone shall be uniformly consistent in color, value, graining texture, and other features to the extent inherent in the specified stone type. Color and value variations shall be within ranges established by approved samples.

Graining and texture variations, whether highly figured or uniform, shall be consistent in all material supplied. Material sources and quarry locations shall be approved by theEngineer for each stone type.

All granite shall be “Laurentian Green”, a medium-grained granite of dark grey/green color, with dark grey and medium green/grey grains veins, of compressive strength greater than 22,000 psi (MPa) per ASTM C 170, minimum density of 177.9 lb/cf per ASTM C 97, and maximum absorption rate of 0.12% per ASTM C 97, as supplied by the following:

(1) Furlong & Lee Stone Sales, Inc., 51 East 42nd Street, Suite 1409, New York, NY 10017, Tel (212) 986-3828.
(2) Polycor Granite Corporation, 139, St-Pierre Street, Quebec City, Quebec, Canada, G1K8B9, Tel (418)692-0981),
(3) Granite Groupe Solutions, 47, Chemin du Brûlé, Lac-Beauport, Quebec, Canada, G3B0P3, Tel (418)559-9423.
(4) or approved equivalent.

Stone from other suppliers may be deemed acceptable as “equivalent” based on criteria including individual specimen color and texture, material properties, contrast and compatibility of texture and color with other material specified. The Engineer shall be the sole arbiter of such compatibility.

Source Quality Control of Stone Material: Furnish testing of each granite stone type and finish for this Project, prepared by an approved independent and qualified testing agency. Tests shall be performed at thickness of 1.5” and with selected finished stone top surface. Granite materials shall conform to ASTM C 615, Granite Building Stone. Test reports for stone materials shall show and list minimum values for the following physical characteristics as a minimum: Modules of rupture,

ASTM C 99; Compressive strengths, ASTM C 170; Absorption, ASTM C 97; Flexural Strength, C 880. Provide mineral and chemical compositions of stone and identification of any material composition that may cause staining within stone or on surface of stone such as iron pyrites or other detrimental material.

(B) Stone Fabrication

Stone shall be cut to sizes, shapes, dimensions, and details shown for each type and condition. Relate to and adjust stone fabrication together with installation requirements specified, herein. Include all cutting, drilling, and fitting of stone required to accommodate the work of other trades.

Where shapes are indicated on Contract Drawings as curved, either graphically or in text, edges shall be cut to true radii. Where elements curve horizontally and slope vertically, curvature shall be accurate in the horizontal plane.

Exposed surfaces and edges of stone units shall be free from cracks, broken corners, chipped edges, scratches, or other defects affecting appearance. No patching, joining, or hiding of defects will be permitted.

Provide stone of the thickness specified or otherwise shown as a minimum. Maximum variations in thickness from that shown shall not exceed 1/8" on units 4" or less.

Cut stone full and true on faces, reveals, beds, joints, and top to the full dimensions required by Contract Drawings. All sawn edges shall be straight and true. Maximum deviation from straight line or radii indicated shall not exceed 1/16" when measured with a 10' straightedge or radial template, or plus or minus one-fourth the width of joints, whichever is more stringent. All units shall fit together accurately. Reference Erection Tolerances herein for additional criteria.

Fabricate stone so that joints between units shall be as shown on Contract Drawings typically for alignment and spacing. Make faces of stone in same plane flush at joints. All finished surfaces of stone panel and coping units shall be true and out of wind.

Typical joint width shall be 1/4" unless otherwise specified in the Contract Drawings.

Shop Cutting, Drilling, and Fitting: Include all cutting, drilling, and fitting of stone required to accommodate the work of other trades. In cutting and fitting, carefully cut and grind edges to a neat, tight, fit. Cutting shall be in such a manner so as not to impair strength or appearance. Use physical templates (not just drawing dimensions) for all cutting and drilling. Obtain required templates from appropriate trades and suppliers.

Exposed Faces and Edges: Provide finish characteristics and quality indicated for each stone material type, condition of use, and as approved. Exposed stone surfaces shall be “Thermal” and “Rock-Face” finishes as defined by NGBQA. Thermal finish shall be mechanically applied by flame in the long dimension of finished work. The application of thermal finish shall be controlled to avoid any visible directionality. Rock-Face finishes shall be pitched from neat corners with a chisel, to the tolerances indicated on the Contract Drawings.

(C) Installation Materials

Furnish all anchors, cramps, dowels, tiebacks, and the like fitting hardware as necessary to properly secure stone units. Types to be approved, of sizes and shapes to fit each particular support condition encountered. Metal components for exterior work shall be stainless steel, Type 302/304, nonmagnetic.

Lead or plastic buttons used shall be of the thickness required for the joint size shown or specified, and of the size required to maintain a uniform joint width, and meet the load requirements of stone installation condition.

Non-shrink epoxy grout for setting stainless steel dowels, handrails, etc., shall be of a type specifically intended for excellent performance in grouting metal into masonry.

Grout for mortar joints shall be colored, packaged epoxy grout as Laticrete Spectralock Pro Premium Grout, or equivalent type by Sika or Sonneborn, or approved equivalent. Color shall be as selected from a full range of manufacturer's colors by the Engineer.

Mortar Setting Beds shall be Laticrete 3701 Fortified Mortar Bed, or approved equivalent by Sika or Sonneborn, or approved equivalent.

Setting Adhesive and Slurry Bond Coat shall be Laticrete 254 Platinum, or approved equivalent adhesive type by Sika, Sonneborn, or approved equivalent.

Caulk/Expansion Joint Materials:

(1) Joint filler material shall be an approved premolded non-bituminous material, compatible with backer rod and sealant.
(2) Backer rod shall be closed cell polyethylene backer rod.
(3) Sealant at horizontal surfaces shall be "Sonolastic NP II" two-part elastomeric polyurethane, or approved equivalent type by Sika or Pecora, or approved equivalent. Color shall be as selected from a full range of manufacturer's colors by the Engineer.

9.95G.3. QUALITY ASSURANCE.

(A) References Standards (as applicable generically to stone type(s) or material specified: National Building Granite Quarries Association (NBGQA); American Society for Testing and Materials (ASTM); American National Standards Institute (ANSI); American Iron and Steel Institute (AISI). In case of conflict between the referenced standards, codes, or Contract Documents, the referenced standard, code, or Contract Document having the more stringent shall govern as approved by Engineer.

(B) Fabrication Qualifications: Stone fabrications shall be by a firm or firms that have successfully fabricated stonework similar to the quality and in the quality shown of each material type and condition, specified, and in the quality specified, for a period of not less than five (5) years. Special attention is drawn to the radially-curved, tapering granite stair treads of five steps above the stairs

landing, and the rock-face finish of the radially-curved Granite Block Seating. Fabricator must demonstrate ability to fabricate these elements to the lines and contours as indicated on the Contract Drawings, by submission of photographs of similar projects.

(C) Installation Company Qualifications: Erection of stonework shall be by a firm that can exhibit proof of a minimum five (5) years of prior successful experience with stone installations of equivalent type and similar scope to this Project.

9.95G.4. SUBMITTALS.

All submittals shall be as per NYC DOT Standard Highway Specifications, under Division 1 Contract Requirements, **Section 1.06.31**.

(A) Submit complete data on quarry facilities for each stone type and on fabrication facilities for stonework. Include information of location, production capabilities, and the nature and character of each stone selected.

(B) Installer Qualifications: Submit to identify and exhibit installation company qualifications as specified herein.

(C) Stone Material Properties Data: Material properties data for each stone material type shall be submitted by the stone suppliers and certified as representative of the properties of stone material to be supplied for the Project. Include references to appropriate ASTM tests as conducted by a certified testing laboratory.

(D) Submit product information for each installation material item including fitting hardware, fastening devices, accessories, mortars, caulk, grouts, and the like.

(E) Shop Drawings: The Contractor shall submit Shop Drawings when required, in accordance with the requirements of the **Section 1.06.13 of** NYC DOT Standard Highway Specifications. Submit overall and detailed plans, sections, and elevations as necessary to accurately and fully describe the required elements for each stone material type furnished and each related application condition of the Project work. Include necessary coordination and preparation of composite drawing information together with installation trades contractors of different components, including railings, edgings, and concrete foundations. Establish and verify locations of expansion joints, which shall be coordinated with concrete shop drawings. All shop drawings for items under this section shall be submitted concurrently.

1. Submit complete Cutting and Setting Drawings showing shop sizes, shapes, thickness, jointing, anchoring, connection with other work, typical and special anchoring details, supports, dimensions, and setting numbers for each piece. Setting Drawings shall show relationship to adjoining construction and, after fabrication and final selection, shall indicate the location of each stone unit with a number designation corresponding to number marked on each unit. Show location layouts and patterns coordinating with Contract Drawings and related survey control points and dimensions. Establish and verify dimensions with concrete work of on-site walls, masonry layouts and patterns, and other like conditions. Show location, type, and extent

of anticipated field cutting and finishing. Do not fabricate any stone (except for samples) until Engineer has approved Shop Drawings for fabrication.

(F) Submit product information for each installation material item including fitting hardware, fastening devices, accessories, mortars, caulk, grouts, and the like.

(G) Stone Samples: Submit set of 3-unit samples, minimum 2 square feet surface area, of each stone material and each stone finish type. Include in each set the full and extreme range of exposed color, texture, and finish to be expected in the completed work. Engineer's review will be in for color, texture, and finish only. Compliance with all other requirements is the exclusive responsibility of the Contractor. Approved samples shall set the finish standard for the work.

(H) Grout and Sealant Material Samples: Submit samples for each condition of use to show selected colors. Submit samples of eight colors closest in coloration to the granite when the granite is wetted.

(I) Stone Support and Accessory Items Samples: Submit samples for each type and material composition, full size.

(F) Mockups.

Construct at the earliest possible time and at approved location, before proceeding with work and after Engineer's approval of submitted samples. Submit proposed locations for typical field samples/mockups and receive approval of locations prior to construction of field samples. Mock-up shall be per Contract Drawings unless otherwise directed, using materials, setting bed, pattern and joint treatment. The field mock-up/sample must be approved by the Engineer before the actual work may proceed. If necessary, remove and reconstruct field sample until approved. Accepted mock-up establishes minimum standard of quality and workmanship for granite masonry work of this section. Demolish and remove field sample at a time approved by Engineer when no longer required to serve as standard of work. Mockup may be incorporated as part of work if conforming to the specified requirements, and if accepted by the Engineer. Provide and construct mock-ups as follows:

(1) Granite Stair Treads: minimum 6 linear feet, in combination with Granite Block Seatingand Granite Slab Paving.
(2) Granite Block Seating : minimum 8 linear feet
(3) Granite Slab Paving: minimum 10 square feet.

(G) Delivery, Storage, and Handling

Protect, store, and handle stone materials as recommended by stonework fabricating company in addition to requirements specified herein.

Properly crate and band stone units for shipment receiving at job site. Crating of stone and packaging accessory item shall be respective and related to the conditions for installation.

Handle each stone material type to prevent chipping, breakage, soiling, or other damage. Do not

use pinch or wrecking bars without protecting edges of stone with wood or other rigid materials.

Store stone materials on wood skids or pallets, covered with non-staining, waterproof membrane. Place and stack skids and stone to distribute weight evenly and to prevent breakage or cracking of stone. Protect stone from detrimental weather conditions with waterproof, non-staining covers or enclosures, but allow air to circulate around stone during extended period of storage.

(H) Environmental Requirements

Protect mortar materials and stone accessories from weather, moisture, and contamination with earth and other foreign materials. Do not use mortar materials to install stone when the temperature is below 4 degrees Celsius (40 degrees Fahrenheit). When exposed during construction activities, protect partially completed stonework against weather when work is not in progress. Cover top of uncompleted work sections with strong, waterproof, non-staining membrane extending down both sides of walls and anchor securely in place.

9.95G.5. METHODS.

(A) PREPARATION

Verify all measurements and dimensions and coordinate the installation of support structures for this work. Coordinate and schedule stonework fabrications and installations with the work of other related trades and separate contracts. Give particular attention to the location and size of cutouts required to accommodate mechanical, electrical, and other work or adjoining construction.

Verify that surface of foundation has suitably-roughened texture to receive setting mortar.

Clean dirty or stained stone surfaces by removing soil, stains, and foreign materials before setting. Clean stone by thoroughly scrubbing with fiber brushes and then drenching with clear water. Use only mild cleaning compounds that contain no caustic or harsh materials or abrasives.

Protection: Apply protective wax coating to stone surface if adhesive, mortar, epoxy adhesive or any other setting material would stain the stone. Wax shall be applied carefully to prevent contact with surfaces to be joined. Wax shall be steam-cleaned off after work is completed.

(B) INSTALLATION

Do not use stone units with chips, cracks, voids, stains, or other defects that might be visible in the finished work. If installed, remove and replace with units meeting specification requirements and approval of the Engineer.

Execute work by skilled mechanics and employ skilled stone fitters/cutters at site for necessary field cutting, as stone is set. Clean stone (especially edges) before setting.

Set stone in accordance with Contract Drawings and final approved shop drawings. Provide anchors, supports, fasteners, and other attachments shown, or necessary to secure stone in place. Shim and adjust accessories as required for proper and correct setting of stone. Completely fill holes, slots and other sinkages for anchors, dowels, fasteners and supports with epoxy grout as

applicable to conditions during setting of stone. Provide compressible filler in dowel holes as necessary to ensure that stone units do not bear on dowels such that may cause cracking.

Setting Surfaces, General: Before starting the installation, the concrete slab, structural concrete, and all other surfaces to contact mortar materials shall be cleaned to remove soil and loose mortar. Dry or dusty concrete surfaces shall be wet down, or washed and excess water removed just prior to the application of setting bed. Immediately prior to placing the setting bed, apply a slurry bond coat of approved setting adhesive to all surfaces to contact mortar materials. The mortar bedding course shall be placed, screeded and shaped upon the concrete base, its finished depth shall be as shown on the detail drawings and at correct depth to achieve required grades. The bedding shall be shaped to a true surface. For paving, the surface shall be parallel with surface of finished paving. For monolithic elements, the surface shall be parallel with the seating surface of the elements. The surface shall be formed by means of template or striking board (12' X 2" X 6" board). The bed shall then be struck off until proper alignment is secured. The area of bedding placed in any workday shall be scheduled so that no bedding course remains at the end of the day without stone installed. After final shaping, the bedding course shall not be disturbed prior to laying the stone.

Stone Setting, General: Wet stones thoroughly before setting and set stones before initial mortar set occurs. Do not set stone on dry mortar bed. To all surfaces of stone to contact mortar, apply slurry bond coat of approved Setting Adhesive. Care should be taken to prevent contact of Setting Adhesive with any surface of stone to be exposed. Do not apply slurry bond coat near exposed face of stone to any portion of stone that will contact grout.

For paving installation, apply slurry bond coat of approved Setting Adhesive to dry setting bed with a flat trowel according to manufacturer's directions. Apply skim coat of same slurry grout to underside of stones immediately before placement. After each section is laid, the entire area shall be beaten with a wooden block to produce a level surface and to embed the units in the mortar. Beating shall be done before mortar takes an initial set. Paving shall be laid in such a manner that units will not come loose from the effects of frost or water seepage.

Pavement areas shall be laid such that changes in slope shall be gradual. The intent of the grading and layout are to minimize instances where differential slopes result in instances where abutting stone pieces cannot be laid flush along joints. However, where differential condition occurs in excess of 1/16” variance in height or greater, the Contractor shall grind horizontal surfaces to eliminate differential, extending grinding as necessary to eliminate differential, as determined by the Engineer. The Contractor shall then flame ground areas to match surrounding pavement finish. Cutting of stone pieces on lines other than joints indicated on Contract Drawings shall not be done without the written consent of the Engineer and approved layout of such additional joints.

For monolithic stone installation, including granite stair treads and granite block seating , apply slurry bond coat and set stone unit in wet setting bed, providing supports as necessary to achieve accurate grades. Set stones with anchor dowels in full bed of mortar with back-up spaces and vertical joints slushed full, unless otherwise indicated. Stone surface shall be beaten with a wooden block as necessary to embed units in the mortar. Rake out joints for grouting before setting mortar has hardened. Rake joints to uniform depths with square bottoms and clean sides.

For veneer installation, anchor stone masonry to concrete or other masonry structural wall with approved anchors secured per manufacturer instructions. Embed veneer anchors in mortar joints of stone masonry at least halfway, but not less than 1-1/2 inches, through stone masonry and with at least a 5/8-inch cover on exterior face. Space anchors to provide not less than one anchor per 2 sq. ft. of wall area. Install additional anchors within 12 inches of openings, sealant joints, and perimeter at intervals not exceeding 12 inches.

Anchor veneer stone with stone anchors where indicated. Install anchors by fastening to substrate and inserting tabs and dowels into kerfs and holes in stone units. Provide compressible filler in ends of dowel holes and bottoms of kerfs to prevent end bearing of dowels and anchor tabs on stone. Fill remainder of anchor holes and kerfs with mortar.

After application of Setting Adhesive, set veneer stone in full bed of mortar with full head joints unless otherwise indicated. Build anchors into mortar joints as stone is set. Rake out joints for pointing with grout before setting mortar has hardened. Rake joints to uniform depths with square bottoms and clean sides.

For all granite installation, grout joints shall be installed with approved color and type of Grout material in accordance with manufacturer instructions. Grout joints as soon as possible after initial set of setting bed. Employ all methods necessary to prevent dirt or other debris to enter ungrouted joints. If dirt or debris of any kind enters ungrouted joints despite these measures, clean joints completely according to grout manufacturer requirements before proceeding to grout installation. Force grout into joints, taking care not to smear grout on adjoining exposed stone surfaces. Compact each layer thoroughly and allow to it become thumbprint hard before applying next layer. Tool joints, when pointing mortar is thumbprint hard, with a smooth jointing tool to produce slightly concave profile. Cure grout as recommended by manufacturer.

Provide caulk joints when meeting adjacent vertical elements, at expansion joints, where shown on Contract Drawings, and where required to prevent stone cracking.

Caulk/Expansion Joints: Keep sealant joints free of dirt, debris, mortar, and other rigid materials. Caulk joints shall be finished cleanly per approved sample installation, with slightly concave section. Joints shall be one-quarter (1/4”) inch in width unless otherwise specified on the Contract Drawings. Expansion joints shall be filled with non-extruding premolded joint filler to within 3/4" of the pavement surface. All caulk and expansion joints shall then be filled with two part urethane sealant over a foam backer rod. Sealant to be of an approved color to match surface of pavement, or other color as directed by the Engineer Prepare joints and apply sealants of type and at locations indicated to comply with applicable requirements of the sealant manufacturer's instructions.

Include all field cutting, drilling, and fitting of stonework not performed in the shop and required to accommodate the work of other trades or contracts. In cutting and fitting, carefully cut and grind edges to a neat tight fit. Do cutting in such manner so as not to impair strength or appearance of stone.

Use physical templates for all cutting and drilling and obtain required templates from appropriate

trades.

(C) ERECTION TOLERANCES

Variation from true horizontal alignment or curvature: Do not exceed 1/8”.

Variation from Plumb for lines and surfaces of walls and arises: Do not exceed 1/8" in 10'.

Variation from Level, Slope, and Grade: For grades, slopes, level conditions, and other conspicuous lines indicated, surfaces shall be true to grade, slope, and line indicated within 1/8" in any 20’.

Variation in Cross-Sectional Dimensions: For thickness of walls and other conditions from dimensions shown, do not exceed minus 1/8", nor plus 1/8".

Offset at Joints: Do not exceed plus or minus 1/16".

Tolerances shall not be accumulative.

(D) PROTECTION

Prevent materials used for installing work of this Section from staining or damaging the exposed surfaces of stone units or the exposed surfaces of the adjoining construction. Immediately remove mortar, grout, wax, or other detrimental materials from exposed surfaces of stone or adjoining construction. After installation, protect stonework from damage during subsequent construction activities.

(E) CLEANING AND REPAIRING

Substantial Completion, replace defective, broken, or damaged stone units installed as work of this Section. Unfilled or defective joints shall be properly repaired. After completion of any repair work, clean exposed surfaces of all stone units installed as work of this Section with clean water and stiff fiber brushes until all dirt, stains, efflorescence, mortar, and other defacements are removed. Use cleaner and procedures recommended by stone quarry and stone fabricating company. Do not use wire brushes, metal scrapers or acids. Protect adjacent surfaces from damage during cleaning operations.

9.95G.6. MEASUREMENT. The quantity to be measured for payment shall be:

(A) GRANITE STAIR TREADS: The number of linear feet of granite stair treads as measured along the nose of the tread actually installed at the site, to the satisfaction of the Engineer, in accordance with the Contract Drawings, irrespective of thickness, depth or width of tread section.

(B) GRANITE BLOCK SEATING: The number of cubic feet of granite terrace seating units as measured along the nose of the seat actually installed at the site, to the satisfaction of the Engineer, in accordance with the Contract Drawings, irrespective of thickness, depth or width of unit section.

(C) GRANITE SLAB PAVING: The number of square feet of granite slab paving actually installed on setting bed with joints as indicated on the Contract Drawings, to the satisfaction of the Engineer.

(D) GRANITE VENEER: The number of square feet of granite veneer actually installed on setting bed with joints as indicated on the Contract Drawings, to the satisfaction of the Engineer

9.95G.7. PRICES TO COVER.

(A) GRANITE STAIR TREADS:
The contract price for Granite Stair Treads per linear foot shall cover that cost of all labor, materials, fabrication, plant, equipment, insurance, and necessary incidentals required for completing the work; all in accordance with the Contract Drawings, the specifications and the directions of the Engineer.

(B) GRANITE BLOCK SEATING:
The contract price for Granite Terrace Seating Units per cubic foot shall cover that cost of all labor, materials, fabrication, plant, equipment, insurance, and necessary incidentals required for completing the work; all in accordance with the Contract Drawings, the specifications and the directions of the Engineer.

(C) GRANITE SLAB PAVING:
The contract price for Granite Paving Bands per square foot shall cover that cost of all labor, materials, fabrication, plant, equipment, insurance, and necessary incidentals required for completing the work; all in accordance with the Contract Drawings, the specifications and the directions of the Engineer.

(D) GRANITE VENEER:
The contract price for Granite Veneer per square foot shall cover that cost of all labor, materials, fabrication, plant, equipment, insurance, and necessary incidentals required for completing the work; all in accordance with the Contract Drawings, the specifications and the directions of the Engineer.

Payment will be made under:

Item No.	Item	Pay Unit
9.95 GSP	GRANITE SLAB PAVING:	S.F.
9.95 GBS	GRANITE BLOCK SEATING	C.F.

END OF SECTION

SECTION PK-13 - TYPE “K” COPPER TUBING

PK-13.1. WORK. Under this item the Contractor shall furnish, nstall and connect the water pipe of the size shown in accordance with the plans, specifications and directions of the Engineer.

PK-13.2. MATERIALS.

(A). PIPE: The water service pipe shall be rigid hard temper type "k" opper tubing in straight lengths meeting the specification for ASTM designation No. B88.

(B). PIPE AND NIPPLES: Pipe and short threaded nipples shall be rass conforming to ASTM B 43 or copper conforming to ASTM B 42, regular wall thickness, except that pipe and nipples of sizes 1-inch and smaller shall be extra strong. Threads shall conform to ASME B1.20.1, NPT.

(C). SOLDER JOINT FITTINGS:

a. Wrought copper solder joint seamless fittings shall be designed or use with copper water tube and conform to ASTM B 75 and ASME B16.22. Material shall be UNS C10200, C12000, or C12200.
b. Cast copper joint pressure fitting shall be designed for use with opper water tube and conform to ASME B16.18.
c. Use solder joint fittings for working pressures of 300 psi or less.

(D) THREADED FITTINGS: Cast bronze threaded fittings shall be esigned for use with brass or copper pipe and nipples and conform to ASME B16.15, Class 125 and 250. Use Class 125 fittings for working pressures of 200 psi or less. Use Class 250 fittings for working pressures greater than 200 psi, but less than 400 psi.

(E) FLANGES AND FLANGED FITTINGS: Cast bronze pipe flanges nd flanged fittings shall conform to ASME B16.24, Class 150 or Class 300. Use Class 150 flanged fittings for working pressures of 225 psi or less. Use Class 300 flanged fittings for working pressures greater than 225 psi; but less than 500 psi. Provide flat faced flanges. Use solder joint or threaded end companion flanges. Companion flanges with solder joint or threaded end shall be limited to the pressure rating of the pipe connection and not the flanged joint.

(F) SOLDERING FLUX: Soldering flux shall comply with ASTM B 13.

(G) BOLTS, NUTS AND GASKETS FOR FLANGES:

a. When both aboveground and buried adjoining flanges are ronze, use bronze bolts and nuts. Bolts shall conform to ASTM F 468, Grade C65100 or C63000. Nuts shall conform to ASTM F 467, Grade C65100 or C63000.
b. When only one of the aboveground adjoining flanges is bronze, use Type 316 stainless steel bolts and nuts conforming to ASTM A 193, rade B8M for bolts and ASTM A 194, Grade 8M for nuts.
c. Connect to buried ferrous flanges with flange insulation kits. Bolts used in flange insulation kits shall conform to ASTM B 193, Grade B7. Nuts shall

comply with ASTM A 194, Grade 2H. If the adjoining buried flange is bronze, use bronze bolts and nuts as described above, without a flange insulation kit.

PK-13.3. SUBMITTALS.

(A) Submit manufacturer's catalog data and descriptive literature for opper pipe, tube, fittings, miscellaneous piping materials, and solder. Show dimensions and materials of construction by specification reference and grade.

PK-13.4. INSTALLATION.

(A) The pipe shall be laid true to line and grade with a cover as indicated on the plans or as directed by the Engineer.

(B) When the foundation is good firm earth, the earth should be pared or molded to give a full support and if necessary a layer of fine sand or other suitable material should be placed. The same means of securing firm foundation should be adopted in case the excavation has been made deeper than necessary, in which case the Contractor shall furnish the gravel at his own expense.

(C) Where the bottom of the trench is in rock, fresh fill, soil of low bearing power or other situations where special foundations are required, the Contractor shall provide such foundation in accordance with the written order of the Engineer. The work shall be paid for at the unit prices bid for the materials used in the work.

(D) Install pipe and tube without springing, fording, or stressing the pipe, tube, or any connecting valves.

(E) Provide pipe hangers and supports for pipe and tube where installed above ground, in vaults and structures.

(F) Use soldered joints and fittings with copper water tube in buried and exposed service.

(G) Use threaded joints and fittings with brass or copper piping in buried and exposed service

(H) Tube cutters shall always be sharp. Do not take too deep a cut with each turn of the cutter or back and forth motion of a saw blade.

(I) Cut tubing square and remove burrs. Use a sizing ring on the ends of soft copper tubing, and bring to true dimension and roundness. Clean the surfaces to be soldered with fine emery cloth, cleaning pads, or special wire brushes. Rub hard enough to remove the surface film of oil, grease, heavy oxide, and soil, but not hard enough to remove metal. Coat clean surfaces with a thin film of non-toxic and non-corrosive flux, assemble joint full depth, and remove excess flux before soldering.

(J) Make soldered joints in accordance with ASTM B 828. Solder shall penetrate to the full depth of the cup in joints and fittings. Solderers shall comply with ASME B31.3, paragraph 333.

(K) Bends in soft copper tubing shall be long sweep. Shape bends with shaping tools. Form bends without flattening, buckling, or thinning the tubing wall at any point.

(L) Clean threaded joints by wire brushing or swabbing. Apply Teflon joint compound or Teflon tape to male pipe threads before mating threaded joint. Joints shall be watertight.

PK-13.5. TESTS.

(A) The Contractor shall not backfill over any pipe until ordered by the Engineer.

(B) The pipe system shall be tight and show no leaks when filled with water, sealed and subjected to an internal hydrostatic pressure of 100 psi for thirty minutes. Temporary caps shall be placed where required to permit making the tests where valves are not available. The tests shall be made in the presence of the Engineer or his representative.

PK-13.6. DISINFECTION. After the tubing has been laid, but prior to being put into service, it shall be thoroughly disinfected with chlorine concentration as follows:

25-PPM	24-hour contact time (dry lay)
100-PPM	3-hour contact time (dry lay)
300-PPM	15-minute contact time (relay)

(A) DRYLAYS: (i.e., main is isolated from distribution system and does not have to be put into service immediately) The required chlorine solution shall be injected through a tap inserted in the line for that purpose by the Contractor, the point of application to be at one end of the pipe section with the bleed at the opposite end.

Chlorine residual shall be monitored at the bleed end to determine if the proper chlorine concentration is reached. When the proper concentration is reached, the required contact period shall begin.

When using 100-PPM solution for three (3) hours, if the concentration goes below 50-PPM during disinfecting, chlorine must be added to bring the concentration back to 100-PPM.

When using 25-PPM solution for twenty-four (24) hours, the chlorine residual must be checked at the end of twenty-four (24) hours. If the residual is less than 10-PPM, the above procedure must be repeated.

After the mains are sufficiently disinfected they shall be thoroughly flushed. Samples will then be obtained and tested. The main will not be put into service until such time that the test results have been found acceptable.

(B) RELAYS OR WETLAYS: (i.e., main must be put into service as soon as possible) Chlorine powder shall be distributed uniformly in the main during installation of the pipe to obtain the 300-PPM concentration. This solution shall have a minimum contact time of fifteen (15) minutes and be thoroughly flushed before putting the

main into service and opening the service lines. This should be accomplished by having the one and one-half (1-1/2) inch tap used for flushing opened only slightly during the first fifteen (15) minutes followed by completing flushing of the system of all excess chlorine. In all cases, this flushing shall not be less than fifteen (15) minutes after the tap is fully open.

At tie-ins where flushing cannot be accomplished without the possibility of a heavy concentration of chlorine entering the distribution system, disinfecting procedures may be altered at the discretion of the Engineer. However, all new pipes must be thoroughly cleaned and sprayed with a one percent (15) hypochlorite solution prior to installation and flushed thoroughly.

In all cases, the main shall not be put into service for domestic consumption until the sanitation condition of the interior of the main is satisfactory to the Engineer.

Should the Contractor neglect or refuse to comply with any of the above stipulated provisions for cleaning and disinfecting the pipes and fittings and maintaining them clean while the pipe is being laid, then the Engineer may, without further notice, stop all work on the contract until the Contractor complies.

PK-13.7. **MEASUREMENT**. The quantity of **TYPE `K' COPPER TUBING** to be paid for under these items shall be the number of linear feet (laying length), of each size, including fittings, furnished and incorporated in the work in accordance with the plans, specifications and directions of the Engineer.

PK-13.8. **PAYMENT.** The price bid shall be unit price per linear foot, and shall include the cost of all labor, materials, equipment and incidental expenses necessary to complete the work, including fine gravel, in accordance with the plans and specifications to the satisfaction of the Engineer.

Excavation, water tap and restoration will be paid for under other items.

Payment will be made under:

Item No.	Item	Pay Unit
PK-13D	TYPE K COPPER TUBING, 1” DIAMETER	L.F.

END SECTION

SECTION PK- 17 - CAST IRON VALVE BOX, 5 1/4" DIAMETER

PK-17.01 INTENT. This section describes 5 ¼" cast iron valve boxes

PK-17.02 DESCRIPTION. Under this Item, the Contractor shall furnish and install CAST IRON VALVE BOX, 5 1/4" DIAMETER in accordance with the plans, specifications, and directions of the Engineer.

PK-17.03 MATERIALS

(A) Box: 5 1/4" diameter valve boxes shall be Bingham & Taylor Fig. No. 4908 with a Fig No. 4904-L locking cover, or approved equal. The cover shall have the designation "WATER" cast thereon. The boxes shall extend within the limits called for on the plans.

(B) Setting: The valve boxes shall be set plumb, as shown on the plans, on a footing of brick laid in cement mortar, supported on a foundation of broken stone.

(C) Brick: The brick shall be made from clay or shale, well burned, of a quality approved by the Engineer. The mortar shall be composed of one part Portland Cement and two parts sand.

(D) Broken Stone: The broken stone shall be clean broken traprock, or other approved stone, all of which shall pass a one-inch square opening screen and retained on a 5/8 inch square opening screen.

PK-17.04 SUBMITALS: The Contractor shall submit Shop Drawings when required, for Engineer's approval.

PK-17.05 MEASUREMENT. The quantity of CAST IRON VALVE BOXES, 5 1/4" DIA. to be paid for under this item shall be the number of boxes, including brick and broken stone setting bed furnished and installed in accordance with the plans, specifications, and directions of the Engineer.

PK-17.06 PRICE TO COVER. The price bid shall be a unit price per EACH Cast Iron Valve Box and shall include the cost of all labor, materials, equipment and other incidentals necessary to complete the work, in accordance with the plans and specifications, to the satisfaction of the Engineer. Unit price covers the cost of excavation and restoration.

Payment will be made under:

Item No.	Item	Pay Unit
PK-17	CAST IRON VALVE BOXES, 5 1/4" DIA	EA.

END SECTION

SECTION PK 124 CATCH BASINS, DROP INLETS AND MA NHOLES

PK 124.01 INTENT The Contractor shall build **CATCH BASINS, DROP INLETS, AND MANHOLES** of thesizes called for on the plans, where indicated on the plans, or as ordered by the Engineer, in accordancewith the plans, specifications, and directions of the Engineer.

PK 124.02 MATERIALS: Except as otherwise provided for herein, all material and methods of construction shall fulfill the specification requirements of Section B, "Materials and Methods of Construction".

(A) Concrete Base: The concrete base shall be mixed in the proportions of one part Portland cement, two parts fine aggregate and four parts coarse aggregate, with the maximum size of stone limited to one inch (1”). Concrete shall be "Average Concrete" 3,200 psi.

(B) Brick Masonry: All bricks used in the work shall be new, sound, and hard burned throughout, and of uniform size and quality. If required, the brick shall be culled immediately after they are brought on the work, and all bricks which are warped, cracked, or of improper quality shall be removed. The proportion of bats permitted will be determined according to the character and location of the work in which they are to be used.

(C) Mortar: The mortar shall be composed of one (1) part of Portland cement and a maximum of two (2) parts fine aggregate, with not more than five percent (5%) of the cement content of hydrated lime putty.

(D) Reinforcement: Reinforcement and dowels shall meet the specification requirements of the item "Steel Bar Reinforcement".

(E) Precast Concrete: The use of factory precast concrete drainage structures may be substituted for brick masonry at no additional cost to the City. Payment shall be made on a cubic yard basis of precast concrete at the same price bid for brick masonry.

(F) Ladder Rungs: Ladder rungs shall be constructed of copolymer polypropylene plastic, as manufactured by M.A. Industries Peachtree City, GA, or approved equal.

(G) Hood: Hoods shall be of the type shown on the plans, and shall be provided with wall plates.

(H) Frame s. Grates, Covers: Frames, grates, and covers shall be of the types shown on the plans, or as directed by the Engineer.

PK 124.03 INSTALLATION

(A) Excavation: Calculation of quantities of excavation shall conform to maximum payment lines for excavation, Standard Park Drainage Details.

(B) Laying Bricks: Bricks shall be satisfactorily wet when being laid, and each brick shall be laid in cement mortar so as to form full bed, end and side joints at one operation. The joints shall not be wider than three eighth inch (3/8"), except when the bricks are laid radially, in which case the narrowest part of the joint shall not exceed one quarter inch (l/4"). The bricks shall be laid in a workmanlike manner true to line and wherever practicable, the joint shall be carefully struck and pointed on the inside. Brick work shall be laid with a satisfactory bond and as it progresses, shall be racked back in course, unless otherwise permitted.

(C) Cold Weather: In freezing weather, bricks shall be heated sufficiently to remove all ice and frost. No brickwork shall be laid or relaid when the temperature is below 25° Fahrenheit.

PK 124.04 SETTING FRAMES: Frames shall be adjusted to the final grades by the use of cement mortar or brick masonry set in cement mortar as directed by the Engineer.

PK 124.05 INCIDENTAL WORK: The Contractor shall furnish materials for and do all incidental work to complete the structures, including the work of setting and adjusting frames , and plastering. No additional payment will be allowed for the aforesaid, but the cost thereof will be deemed to have been included in the prices bid for each item.

PK 124.06 PROTECTION: All fresh brickwork shall be carefully protected from freezing and from drying effects of the sun and wind and, if required, shall be sprinkled with water at such intervals and for such time as may be directed. Brickwork shall be protected from injuries of all sorts, and all portions which may become damaged or may be found defective shall be repaired, or if directed, to be removed and rebuilt to the satisfaction of the Engineer.

PK 124.07 MEASUREMENT

The quantity of CATCHBASINS, DROP INLETS, AND MANHOLES to be measured for payment shall be the number actually installed, of each type, to the satisfaction of the Engineer.

PK 124.08 PRICE TO COVER

The price bid shall be a unit price for each CATCHBASIN, DROP INLET, AND MANHOLE. and shall include the cost of all labor, materials, equipment, insurance, and incidentals necessary to furnish and place brick or concrete, including, excavation, foundation materials, steel bars, expansion joint material, formwork, cast iron frame and grating, cast iron hood and rungs, and other incidental work and expenses necessary to complete the work in accordance with the plans and specifications of the Engineer, including d to , installation of all plumbing work, connections to the water service; all in accordance with the plans, the specifications, and the directions of the Engineer.

Payment will be made under:

Item No.	Description	Pay Unit
PK-124 W	SPECIAL CATCH BASN WITH HOOD	EA

SECTION PK-143 - RPZ AND WATER METER

PK-143.1 INTENT. Under this section the Contractor shall provide all labor, materials and equipment necessary or required to furnish and install a complete RPZ, Water Meter w/ Remote system including but not limited to:

(a) Reduced Pressure Zone (RPZ) device is also known as a Backflow Preventer;
(b) Water Meter shall include Water Meter and Water Meter Strainer;
(c) All piping, fittings, valves, test tee, and test tee valve, if required and other incidentals necessary to complete plumbing work and connection to water service and water feed lines in accordance with the plans, specifications, and directions of the Engineer;
(d) Provide labor for winterizing the system for the first winter after the system is operational and accepted by the City.

PK-143.2 SUBMITTALS

Shall be submitted in accordance with the requirements of the **General Conditions, Section 1.06**.

(A) SHOP DRAWINGS

The Contractor shall submit Shop Drawings when required, in accordance with the requirements of the **General Conditions, Section 1.06.13,** of the Standard Highway Specifications. A shop drawing is required showing installation of the complete RPZ assembly, water meter, piping, and pipe supports.

(B) CATALOG CUTS

The Contractor shall submit Catalog Cuts of the RPZ, water meter, control valve, and all connected piping for approval prior to installation.

(C) CERTIFICATIONS:

The Contractor shall be responsible for obtaining all certifications necessary to comply with the NYC Bureau of Water Supply & Wastewater Collection, Cross Connection Control Unit & the NYS Dept. of Health regulations for R.P.Z.'s (after installation), including Certification by Backflow Prevention Device Tester; Certification of Master Plumber responsible for the R.P.Z. installation, and a Professional Engineer's or Registered Architect's Certification that the installation is in accordance with the approved Plans. The Contractor shall prepare and submit copies of N.Y.S.D.O.H. Form Gen. 215B to the NYS Dept. of Health & NYC Cross Connection Control Unit of the Bureau of Water Supply & Wastewater Collection. NYCDPR shall receive copies in triplicate of all such submittals. The DPR Design Division; Environmental Engineering Section shall be copied on all such submittals. In summation, the Contractor shall be held completely responsible to ensure that all Work is in compliance with N.Y.S. D.O.H., Form Gen. 215B.

PK-143.3 MATERIALS.

All materials shall be high quality, industry standard and capable of meeting the performance requirements stated herein. All "or approved equivalent" proposals will be reviewed by the Resident Engineer, in consultation with the City’s Landscape Architect, for acceptability. Submittal of “or approved equivalent” specifications does not guarantee acceptance of the product. All product acceptance will be made in writing.

All materials throughout the system shall be new and in perfect condition, made from corrosion-resistant materials when subjected to weather conditions, and supplied from an "authorized" dealer servicing the Metropolitan New York area, in order to assure prompt warranty repair and/or replacement. After award of the Contract, and prior to beginning the work, the Contractor shall submit for approval two copies of the complete list of materials which he proposes to furnish and install. Quantities of materials and equipment need to be included. No deviations from the specifications shall be allowed.

(A) WATER PIPING

Shall be hard temper type 'K' copper tubing meeting the Department of General Services; Division of Municipal Supplies, Dept. of Purchase, Specification No. 32-T-1.64 and ASTM No. B88-1974. Fittings shall be approved wrought copper and bronze solder-joint pressure fittings (ANSI B 16.22).

(B) RPZ

The RPZ (Reduced Pressure Principle Backflow Prevention device) shall be C; Watts, 009QT, Febco Model #825YA, Wilkens 975XL, or approved equal. Size shall be as indicated above and on the Contract Drawings. The RPZ shall meet the requirements of American Society of Sanitary Engineers (ASSE) Standard 1013 & the American Water Works Association (AWWA) Standard Code 506-78.

The RPZ shall consist of two independently operating center guided, spring loaded, "Y" pattern check valves and one hydraulically dependent differential relief valve. Mainline valve body and caps including relief valve body and cover shall be bronze. Check valve and relief valve components shall be constructed so they may be serviced without removing the valve body from the line. Shut-off valves and test cocks shall be full ported resilient seated ball valves.

(C) METER OUTLET CONTROL VALVE

The MOCV shall be a Class 125, all bronze gate valve, with non-rising stem and solid disc, with screwed bonnet and threaded ends, such as Stockham Figure B-103, or approved equal. The MOCV shall be capped for testing. For testing the 1" dia. water meter, the first test port on the RPZ may be used.

(D) ELECTRICAL GROUNDING

For continuity of Electrical Grounding (during RPZ Maintenance) the Contractor is to furnish and install one (1) #2 tinned copper ground conductor and copper alloy ground connectors as per O.Z. Gedney, Type ABG for 1" & 1-1/2" pipe or approval equal. Ground work is to be done prior to any painting or insulation if needed.

(E) WATER METER

Water Meter shall be Neptune T-10, as manufactured by Schlumberger Industries Water Division, or ABB's C-700 as manufactured by ABB Water Meter, Inc., Oak, Florida, or approved equal. All water meters furnished shall conform to the "Standard Specifications for Cold Water Meters", AWWA Standard C700 latest revision.

Water meters shall consist of a bronze maincase with the serial number stamped on the maincase. Only displacement meters of the flat nutating disc type will be accepted for improved

operation. The size, capacity and meter lengths shall be as specified in AWWA Standard C700, latest revision. The maximum number of disc nutations is not to exceed those specified in AWWA C700 latest revision to minimize premature wear.

(F) METER MAINCASE

All one (1") inch meter maincase shall be the removable bottom cap type with the bottom cap secured by six (6) bolts. Bottom caps shall be interchangeable, size for size, between frost-protected synthetic polymer or cast iron and non-frost protected (bronze) models. No meters utilizing frost plugs will be accepted. Non-frost protected meters shall have bronze or synthetic polymer bottom caps. The cross section of the bottom shall break clean when subjected to freezing pressure of 600-850 psi. All maincase bolts shall be of 300 series stainless steel to prevent corrosion. Bottom cap bolt lugs shall be enclosed in the maincase and shall not have externally exposed, threaded through holes.

(G) STRAINER

All meters shall contain removable polypropylene plastic strainer screens. The strainer shall be located near the inlet maincase port, before the measuring chamber and control block assembly.

(H) REGISTER

The register shall be of the straight reading sealed magnetic drive type and shall contain six (6) numeral wheels. Registers must be sealed and dry. All direct reading register lenses shall be flat, of high strength, and impact resistant glass to prevent breakage. The dial shall be of the center sweep pointer type and shall contain 100 equally divided graduations at its periphery. The register must contain a low flow indicator with a 1:1 disc nutating ratio to provide leak detection. Register boxes shall be bronze.

All meters must be adaptable to digital encoder register without interruption of the customer's service for the purpose of pit, remote, or central meter reading. The registers shall be secured to the maincase by means of a plastic tamperproof seal pin to allow for in-line service replacement. Seal screws are not acceptable.

Register retainer rings shall have an impact resistant design which absorbs register glass lens impact. All registers shall have the size, model, and date of manufacture stamped on the dial plate.

1) Measuring Chamber: The measuring chamber shall be a nutating disc type, the flat nutating disc shall be molded of a non-hydrolyzing hard rubber or synthetic polymer and shall contain a type 316 stainless steel spindle. The nutating disc shall be equipped with a synthetic polymer thrust roller with a stainless steel shaft located within the disc slot. The roller head shall roll on the buttressed track provided by the diaphragm in the measuring chamber. The measuring chamber shall be of a 2-piece snap-joint type. The measuring chamber shall be made of non-hydrolyzing synthetic polymer, shall be smoothly and accurately machined and shall contain a removable molded diaphragm of the same material as that of the chamber. No screws shall be used to secure the chamber together. The control block shall be the same material as the measuring

chamber and be mounted on the chamber top to provide sand ring protection. The control block assembly shall be removable to facilitate repairing. Control block assemblies shall be designed to allow no magnetic slippage which would result in a loss of revenue. The measuring chamber outlet port shall be sealed to the maincase outlet port by means of an "O" Ring gasket to eliminate chamber leak paths.

2) Encoder Meter Register: Shall be direct mounted with encoded odometer wheels and digital data stream. Batteries or pulses are not allowed.

3) Registration: The register shall provide a six digit visual registration at the meter. The unit shall, in a digital format, simultaneously encode the four or six most significant digits of the meter reading for transmission through the remotely located receptacle. (The most significant meter registration digits are defined as those digits on the register number wheels that denote the highest recorded values of water consumption.) A quick indexing mechanism shall be employed which shall prevent ambiguous reading. The register shall have a full test sweephand or dial divided into gradients of down to 1/100th of the units of registration. Register test rings shall be available for shop testing. The units of registration shall be in U.S. gallons. These units shall be clearly designated on the face of the register. The month and year of manufacture and other identification information shall appear on the face of the register. The register shall employ a leak detection indicator on the dial face. Registers using pulse generation or conversion of pulses to digital output is not permitted. Batteries shall not be required.

4) Mechanical Construction: Materials used in the construction of the register shall be compatible with the normal water meter environment and with each other. The unit shall possess a copper bottom and incorporate a rubber O-ring seal. Where indicated, pit set registers must be provided with moisture protection for all internal components when operating under flooded pit conditions. The register and mounting base shall be integral components and should not allow for disassembly. The register shall be attached to the meter case by a bayonet attachment. Fastening screws or nuts shall not be required. A tamperproof plastic seal pin shall be used to secure the register to the main case. No special tools shall be required to remove the register. The register head must swivel 360 degrees without removing the seal pin to facilitate visual reading and ease of wiring. The register shall be removable from the meter without disassembling the meter body and shall permit field installation and/or removal without taking the meter out of service. Provision shall be made in the register for the use of seal wires to further secure the register. Terminal screws must be accessible on the register for transmission wire connection to the remote receptacle or future connections to a telephone system.

5) Electrical Construction: The materials employed for contacts and connectors shall inhibit corrosion and shall suffer minimal effect from environmental conditions to which they are exposed. The number wheels used in the register assembly shall be provided with spring-type bifurcated metal contacts to insure a high probability of information transmission.

Connection shall be made to the register by three screw-type terminals, sonically inserted into the register top. Access to the terminals shall be available to all models of register. A port cover shall be provided to cover the terminals after they have been wired. Digitally formatted data transmitted from the register shall incorporate a check sum character to verify correct information transmission and integrity. Data errors shall be indicated by the reading equipment.

(I) METER READING INFORMATION

The encoder register shall provide up to six digits of information to the reading equipment. A ten digit identification number shall also be provided with each reading. The utility shall have the option to reprogram the internal register identification number an unlimited number of times. The encoder register must have the capability to provide additional custom information to the reader. This information shall be programmed (and reprogrammed at any time) by the utility. Information on programming the register, equipment needed, and encoder meter reading output shall be provided with each proposal.

PK-143.4 METHOD.

(A) GENERAL

All plumbing work is to be done by a Licensed Plumber. All on-site plumbing work is to be done by a New York City Master Licensed Plumber. The Contractor shall comply with all rules, regulations, and requirements of all regulatory agencies having jurisdiction. In addition, the Contractor shall furnish extra material to D.P.R. Maintenance and Operations Borough Shop as specified under the heading EXTRA MATERIALS.

(B) PERMITS AND FEES

The Contractor shall be required to obtain all permits and pay required fees to any governmental agency having jurisdiction over the work. Inspections required by local ordinances during the course of construction shall be arranged as required. On completion of the work, satisfactory evidence shall be furnished to show that all work has been installed in accordance with rules, regulations, ordinances and code requirements.

(C) APPROVAL

The scope of work shall include, but not be limited to providing a layout drawing of valve boxes, main line piping, water meter, RPZ, etc., in addition to the labor to install the above and maintain the system including winterizing valves and fixtures. The Contractor shall further provide all catalogue cuts of materials, equipment, and fixtures for approval of all system components.

(D) CONFERENCE

Prior to any work being performed, a pre-construction meeting will be held by NYCDDC. At that meeting, the Contractor shall provide a construction schedule to the Resident Engineer and discuss any concerns and procedures required for obtaining approval of the materials and work under this Contract. Arrangements for this meeting will be made by NYCDDC.

(E) INSPECTION OF SITE

It is mandatory that the contractor shall acquaint himself with all site conditions. Should utilities not shown on the plans be found during excavations, Contractor shall promptly notify the Resident Engineer for instructions as to further action. Failure to do so will make Contractor liable for any and all damage thereto arising from his operations subsequent to discovery of

such utilities not shown in plans. The Contractor shall also be required to determine the available water pressure and gpm delivery available from the site's water source.

Contractor shall make necessary adjustments in the layout as may be required to connect to the City water mains. All coordination with NYCDEP and other agencies is the responsibility of the Contractor.

(F) SUBSTITUTION

The City reserves the right to substitute, add or delete any material or work as the work progresses. Adjustment to the contract price shall be negotiated if deemed necessary by the City.

(G) REJECTION

The City reserves the right to reject material or work which does not conform to the Contract Documents. Rejected work shall be removed or corrected at the earliest possible time.

(H) EXCAVATION

The Contractor shall excavate to the lines as shown in the drawings. All Temporary sheeting as required shall comply with **Section 4.05, SHEETING AND BRACING** of the NYCDEP Standard Water Main Specifications**.**

(I) CONNECTIONS

The Contractor shall connect the water piping as shown on the Contract Drawings for complete and satisfactory operating unit to the satisfaction of the Engineer. Connections shall be made to The Water Meter by coupling union or flange union on both inlet and outlet ends of the meter and bored for sealing with holes not less that one-eight (1/8) of an inch in diameter - solder connections are not permitted. Connections to the RPZ shall be as shown on the Contract Drawings and per manufacturer's instructions.

(J) "AS-BUILT" DRAWINGS

The Contractor shall prepare an "As-Built" drawing as per **Section 1.06.14 of General Requirements** in the Standard Specifications. Drawing shall show all items installed during construction, including the RPZ, water Meter, main line or connection pipe and all valves. The drawing shall also indicate and show all material of sizes, model numbers, manufacturer's name and catalog name and catalog number. These drawings shall be delivered to the Resident Engineer before final acceptance of work. The Contractor shall also provide operating manuals, maintenance instruction documents and a schedule of maintenance activities for all equipment as well as a guide to trouble-shooting system problems. The Contractor shall provide all manufacturers' warrantees for installed products and systems in addition to telephone numbers of manufacturers that can supply compatible replacement parts.

(K) SYSTEM FUNCTION AND TESTING

The Contractor shall conduct a pressure test of all plumbing connections in the presence of the Resident Engineer.

Upon completion of the work, the Contractor shall clean up the site, remove all unused materials and debris and coordinate with the landscape contractor to complete any outstanding items of work which may include completion of mulch installation.

(L) FINAL ACCEPTANCE

Final acceptance of the work may be obtained from the NYCDDC upon the satisfactory completion of all the work. At the time of final acceptance, the Contractor shall deliver five (5) copies of keys to all locked equipment.

PK-143.5 EXTRA MATERIALS

The Contractor shall furnish two RPZ Major Repair Kit per unit supplied (furnish only, not install) and deliver, to the respective D.P.R. Maintenance and Operations Borough Shop

One (1) Each. RPZ Major Repair Kits as manufactured by Conbraco, Febco, Wilkens,or Watts, or approved equal to match the make and size installed, consisting of new materials obtained from the RPZ manufacturer installed. Repair kit shall include all consumable or replacement items including but not limited to relief valve seat disc and check seat disc, bushings, washers, o-rings, bolts, etc. All furnished material shall be properly identified with the RPZ model, size and installation location.

PK-143.6 GUARANTEE AND WARRANTEE

All work, materials and equipment shall be guaranteed for eighteen (18) months, from date of substantial completion of the project, against all defects in material, equipment and workmanship. Guarantee shall also cover repair of damage to any part of the premises resulting from leaks or other defects in material, equipment and workmanship to the satisfaction of the Engineer. Repairs, if required, shall be done promptly at no cost to the City.

PK-143.7 MEASUREMENT AND PAYMENT

The quantity of RPZ & WATER METER – 1” DIA. to be measured for payment shall be the number actually installed to the satisfaction of the Engineer.

The price bid shall be a unit price for each RPZ & WATER METER – 1” DIA. and shall include the cost of all labor, materials, equipment, insurance, and incidentals necessary including, but not limited to, obtaining certifications, installation of all plumbing work, connections to the water service; all in accordance with the plans, the specifications, and the directions of the Engineer.

In addition, the Contractor shall deliver EXTRA MATERIALS as outlined above to D.P.R. Maintenance and Operations Borough Shop. One repair kit is required for each RPZ installed. No additional payment shall be made for extra materials. The Contractor shall include the cost of extra materials in the bid price. Failure to supply EXTRA MATERIALS shall result in the City taking a Total Credit of $300.00 (three hundred dollars) for each RPZ installed (regardless of the size installed).

Payment will be made under:

Item No.	Description	Pay Unit
PK-143	RPZ & Water Meter - 1” Dia.	EA

SECTION PK-637 – BOTTLE FILLER W/HI-LO DRINKING FOUNTAIN BASINS

PK-637.01 INTENT. This section describes a Bottle Filler w/hi-lo Drinking Fountain Basins

PK-637.01 DESCRIPTION. Under these items, the Contractor shall provide all labor, materials, and equipment necessary or required to furnish and install a **BOTTLE FILLER W/HI-LO DRINKING FOUNTAIN BASINS**, including concrete foundation, all internal plumbing, access panels and all external plumbing work and connection to water service and drain within five feet (5') of the tubular body, all in accordance with the plans, specifications, and directions of the Engineer.

PK-637.03 MATERIALS: Except as otherwise provided for herein, the materials shall meet the requirements of the NYCDOT Standard Highway Specifications.

(A) Broken Stone Base: Shall consist solely of crushed ledge rock. Stone shall be no. 3 size and shall be of approved size and quality as specified in the NYCDOT Standard Highway Specifications.

(B) Geotextile –Drainage: shall be FX-60HS (nonwoven) as manufactured by Carthage Mills, Cincinnati, OH, or 160N (nonwoven) by Mirafi, Inc., Charlotte, NC, or TerraTex N06 (nonwoven) by Hanes Geo Components, Edison, NJ, or approved equal.

(C) Polyethylene vapor retarder: shall be a Reinforced Vapor Retarder 3-ply laminate, combining 2 layers of high-density polyethylene and 1 high strength non-woven cord grid similar to Griffolyn Type-65 as manufactured by Reef Industries, Inc., Houston, Texas or approved equal.

(D) Concrete pad, Concrete pipe support and Cleanout: (for Bottle filler and Bottle Filler w /Dog Bowl) Concrete shall be 3,200 psi Average class B-32 Concrete per the NYCDOT Standard Highway Specifications.

(E) Cleanout manhole cover and frame: (for Bottle filler and Bottle Filler w /Dog Bowl) shall be heavy duty cast iron per ASTM A48, latest revision Class 30 or better. Manhole cover shall be a locking cover with frame, similar to Pattern No. 1000010 as manufactured by Campbell Foundry, Harrison, NJ or approved equal. See Hardware: paragraph.

(F) Sand: surrounding cleanout shall be cushion sand as described in the NYCDOT Standard Highway Specifications.

(G) Drain pipe: Shall be cast iron.

(H) Cleanout ferrule: Shall be similar to model # CO-380 cast iron cleanout with gasketed brass countersunk plug, no hub connection as manufactured by Watts Drainage products, Spindale, NC or approved equal.

(I) Expansion joint with sealant: material shall be one of the following: A premolded bituminous fiber joint filler, as specified in Section "B" (requires a bond breaker and sealant) or, a premolded closed cell expanded polyethylene foam joint filler, such as MasterSeal 920 by BASF Inc., Shakopee, MN (requires only sealant) or, an approved equal of any of the above. If bituminous fiber material is used, a bond breaker such as one-half inch (1/2") width polyethylene tape or five-eighths inch (5/8") diameter expanded polyethylene foam backer rod shall be installed as recommended by manufacturer. A bond breaker will not be required for a premolded foam joint or a shredded recycled rubber aggregate joint filler, but sealant is always required. Prepared expansion joints shall be coated with a primer followed by installation of a bond breaker and a self-leveling two- component polyurethane-based elastomeric sealant. The Contractor shall apply Sikaflex 429 primer with Sikaflex - 2C SL sealant, manufactured by Sika Corp., Lyndhurst, N.J; or BASF MasterSeal P 173 with MasterSeal SL 2 sealant, by BASF, Inc., Shakopee, MN, or approved equal. Color of sealant shall be concrete gray. Asphalt cement will not be approved as a sealant.

(J) Precast Concrete plumbing pit: The Concrete Plumbing Pit shall be precast, manufactured by Key Cast Stone Company, Inc., Amityville, NY, Pro Concrete Precast, Jamaica, NY, or approved equal.

a. Cement: Air entrained Portland cement shall comply with the requirements of the ASTM Designation C150. It shall be Type IIA, moderate sulfate resistant.

b. Cast stone shall have a compressive strength of not less than forty-five hundred (4,500) pounds per square inch when tested as 2" x 2" x 2" cubes at an age of not more than twenty-eight (28) days and shall have an absorption rate not to exceed seven (7%) percent of the dry weight after being dried to constant weight at 150 degrees Fahrenheit. No chipped, broken, or checked stone showing fine hair cracks or checks on the surface will be accepted.

c. Aggregate: Natural Sand and gravel shall conform to the requirements of ASTM C33. Calcium Chloride: Do not use calcium chloride in precast concrete.

d. Reinforcing Bars: ASTM A 615, Grade 40 or Grade 60 as necessary. Bars are to be used to handle transportation and handling stresses.

e. Welded Wire Fabric: Shall meet ASTM A1064/1064M.

f. Supports for Reinforcement: Provide supports for reinforcement including bolster, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcing.

(K) Miscellaneous Iron and Steel: Access into the concrete plumbing pit shall be via a two (2') foot diameter ductile cast iron frame and "Parks Leaf" manhole cover as shown on contract plans. Manhole Covers shall be of gray iron per ASTM A48, latest revision, Class 30 or better. Covers shall be as manufactured by Campbell Foundry Co., Harrison NJ or EJ USA, Inc., East Jordan, MI or approved equal. All covers shall be suitable for highway traffic, meeting the requirements for heavy duty H-20 loading, per AASHTO M306-10.

(L) Hardware: Each cover shall be furnished with two (2) Stainless Steel Penta-Head bolts as supplied by Campbell Foundry Co., Harrison, NJ, or approved equal. Typical plastic end caps are to be supplied with hardware and installed on Penta-Head bolts.

(M) Bottle Filler w/ Hi-Lo Drinking Fountain basins: a "Hi-Lo" drinking fountain is defined by ADA as a unit where one fountain basin is accessible to those who use wheelchairs and one fountain basin is at a standard height convenient for those who have difficulty bending. Foutain shall be:

a. Model #10145-SM-NYC
Most Dependable Fountains, Inc.
Arlington, TN,

b. Model #GYQ5X-NYC
Murdock Manufacturing,
City of Industry, CA,

c. Model #LK4430-BF-1U-NYC
Elkay, Oak Brook, IL,

d. or approved equal.

(N) Customization of bottle fillers for NYC use. Manufacturer's identification-shall be displayed discreetly on the unit's access panel to facilitate ordering replacement parts.

All parts and installation shall meet applicable requirements of N.Y.C. Codes, including type "K" copper tubing throughout for water supply within unit.

Sensor operated bottle filler and freeze resistant valves are Not required under this specification.

a. Tubular Body: Shall be either pipe or tubular steel or fabricated 304 stainless steel, 12 gauge or better.

b. Access covers: shall be located for easy access to facilitate maintenance and replacement of parts and shall be fastened with vandal resistant stainless steel screws.

c. Surface mount: Shall be either stainless steel mount or optional stainless steel surface carrier.

d. Corrosion Resistant Treatment: All fabrication and welding shall be completed prior to application of the corrosion resistant coating, metal pieces shall be cleaned of all weld spatter, mill scale, varnish, rust, grease, and the like and the surface mechanically and chemically prepared to receive the coating. This corrosion resistant coating shall be a thermal spray zinc coating or electrostatic or immersion applied primer with a minimum thickness of 3 mils. All metal pieces, including welds, shall receive the coating inside and out.

e. Polyester Powder Coating: A surface coat shall be applied to the thermal zinc coated metal pieces in such a manner that the coating will not peel off. The manufacturer shall perform all processes required to achieve a smooth material bond. An epoxy or acrylic polymer primer shall be applied prior to application of powdercoating. The surface coat shall be an electrostatically sprayed, lead- free, superdurable TGIC (triglycidyl isocynanurate) polyester powder coating applied to a minimum of three (3) mils thickness which shall be oven cured. The TGIC polyester powder coating shall be UV resistant and comply with the ASTM standards.

   Material manufacturer's directions for storage and use shall be adhered to. Material surfaces shall be protected during shipment so as to arrive mar and scratch free in the field.

f. Color- shall be Blue, Green, Black or Silver/Gray, as shown on the drawings and/or as selected by the Engineer. Where Silver/Gray color is specified, satin finish stainless steel (without powder coating) may be substituted.

g. NYC Water Logo: shall be a vinyl decal with ultraviolet (UV) cured ink, designed for outdoor use, minimum thickness 5 mil. Decal shall include a UV protected laminate. Adhesive shall be guaranteed to perform at temperatures as low as -10 degrees F. Minimum durability shall be 3 years. Dimension of decal shall be 3 7/8" in width, 7 3/8" in height, light blue color shall be Pantone Process Cyan (4 color print CMYK 100,0,0,0), white color shall be Pantone Process White (4 color print CMYK 0,0,0,0) or approved equal. Logo shall be placed in recess as shown on attached sketch or as approved by the Engineer.

h. Hardware: All hardware, fittings, and fastenings shall be tamper resistant 18-8 stainless steel, type 304 in accordance with ASTM F593 of sizes as indicated on the shop drawings and as required to complete the installation. Anchor bolts shall be minimum 3/8 inch, ten (10") inches long and may be either stainless steel or galvanized steel, quantity as required by the manufacturer.

i. Bubbler Head: Bubblers shall be rounded one piece design, vandal-resistant type, certified to be lead-free. Bubblers may be either 18-8 stainless steel type 304 or chrome plated cast brass.

j. Push Button: Shall be stainless steel valve body with a 1 ½" diameter feather touch vandal resistant push button. Push button for bottle filler and accessible "lo" basin shall be activated by a maximum five (5) pounds of pressure, in compliance with ADA.

k. Stainless Steel Bowls: Shall be 18 gauge or better stainless steel, type 304, satin finish to comply with ASTM A380 and ASTM A967 standards, install with tamper proof stainless steel screws.

l. Dog Bowl: construction and finish to match the bottle filler and stainless steel bowl as specified herein.

m. Lockable Hose Bibb: shall be included in dog bowl/pet fountain models. Locking device shall be constructed to be vandal resistant. The Engineer shall supply the lock. A vacuum breaker shall be included.

n. Waste Strainer: Shall be satin chrome plated brass or stainless steel waste strainer with a 1-1/4"

o. O.D. tailpiece. Plastic waste drain/strainers are not acceptable.

p. Plumbing: The manufacturer shall have all factory installed plumbing components pre-tested installed before delivery to site. All factory connections to be made by a licensed plumber.

PK-637.03 PLUMBING. The Contractor shall furnish and install all pipe, fittings, valves, and other foundries to complete the plumbing for the connections and concrete pit. The drain pipe shall be extended five (5) feet beyond the foundation and connected to the sanitary drain line or dry well, as shown on the plans. The one and one-quarter (1 1/4") inch cold water line shall be extended five (5') feet beyond the foundation and connected to the water supply pipe, as shown on the plans.

Connection to water supply shall be made with a threaded, extra heavy fitting. The Contractor shall provide dielectric fitting at appropriate locations, as shown on plan.

(A) Water Piping: Water Piping shall be one and one-quarter (1 1/4") inch rigid hard temper type "K" copper tubing as shown on the plans meeting the specification for ASTM B88. Fittings shall be approved wrought copper and bronze solder-joint pressure fitting (A.N.S.I. B16.22).

Pipes through precast concrete plumbing pit wall shall be protected with a sleeve caulked watertight with a silicone sealant. All appurtenances such as 1 1/4" Gate Valve, 3/4" drain cock, reducer coupling and 3/8" pressure regulator valve shall be installed as per plans, and as directed by the Engineer.

(B) Pipe Supports: Pipe clamps shall be made up of 1" x 3/8" strap iron galvanized and shall be constructed to rigidly hold the pipes firmly in place. Clamps shall be held in place with anchor bolts set in fountain shaft or base.

PK-637.04 INSTALLATION: Water supply and drainage lines shall be installed as shown on the detail and the plans. Prior to placement of concrete pad or precast concrete plumbing pit, the subgrade and broken stone shall be level and compacted. Concrete pad shall be a smooth, flat, broom finished surface installed flush with adjacent pavement grade and in accordance with the plans and details. Adjacent pavement shall be pitched away from bottle filler.

(A) Bottle Filler: The unit is to be handled at lifting locations designated by the manufacturer; no chipped, cracked, or otherwise defective Bottle Filler will be acceptable.

The fixture shall be surface mounted and installed in accordance with the manufacturer's written directions. Entire assemblies shall be installed in accurate locations, square and plumb in concrete foundation and in required locations to surrounding finished grade, as shown on the plans. Anchor bolts shall be accurately set, plumb and true, in concrete foundation, quantity as recommended by the manufacturer.

(B) Field connection: All field connections to be made by a Licensed Plumber. The factory installed portion of the cold water supply and waste water lines shall be extended from the Bottle Filler/Drinking Fountain Base at lengths indicated on the drawings. Water and Drain lines shall be pitched away from the Bottle Filler/Drinking Fountain. Pockets in rigid piping that cannot be drained by gravity will be rejected. The plumber will be required to reinstall piping until gravity drain is achieved.

(C) Winterization: The unit shall be winterized by shutting off water supply and opening bleeder valve (outside of fountain). The bottle filler, dog bowl and drinking fountain basins shall be designed to allow internal water to drain by gravity.

PK-637.05 SUBMITTALS: All submittals shall be in accordance with the requirements of the S-Pages.

(A) Shop Drawings: The Contractor shall submit a catalogue cut and a complete dimensional Shop Drawing of the bottle filler showing all components including color, internal plumbing, access panels, gauges of metal and thickness of wall construction at least twelve (12) weeks prior to proposed installation. NYC Water logo decal shall be displayed on shop drawing.

(B) Operation and Maintenance Manual: The Contractor shall furnish an Operation and Maintenance (O & M) Manual prepared in conjunction with the manufacturers of equipment in this specification. The O & M manual shall contain the following:

a. Description of system operation.

b. Troubleshooting and Repair Guide.

c. List of parts with their model numbers.

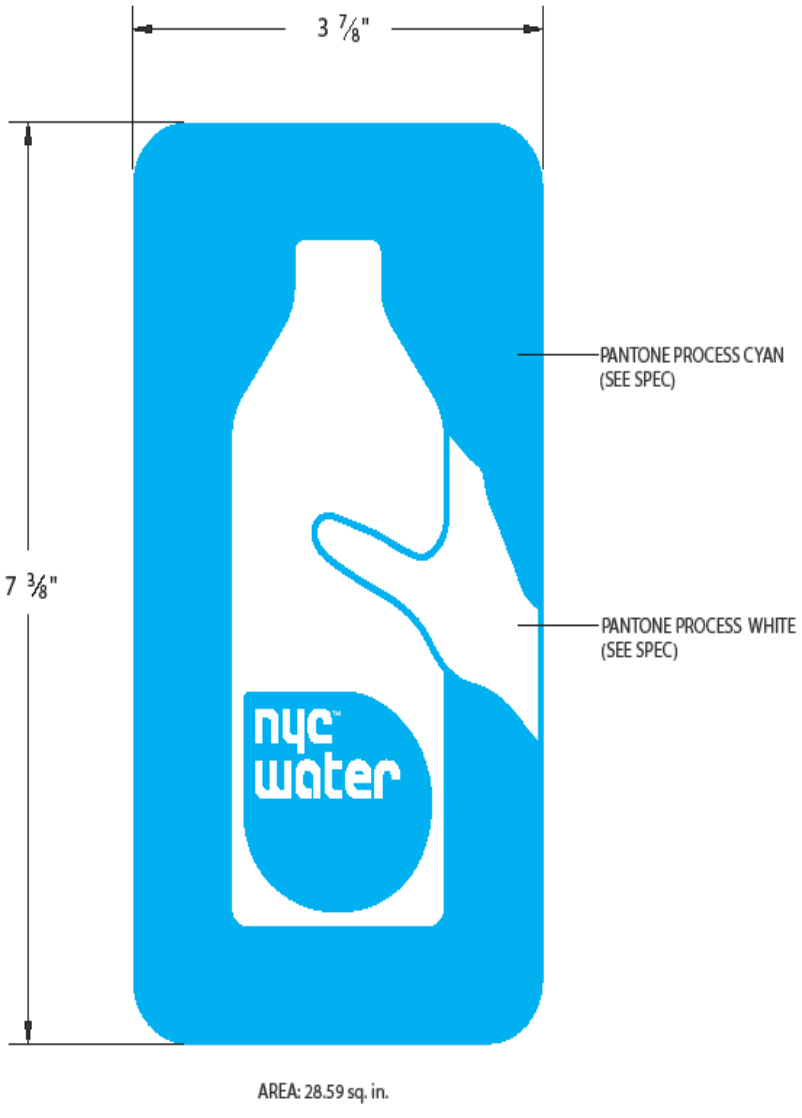
PK-637.06 MEASUREMENT. For each **EACH BOTTLE FILLER W/ HI-LO DRINKING FOUNTAIN BASINS** furnished and installed in accordance with the plans, specifications, and directions of the Engineer, the Contractor shall receive the unit price bid.

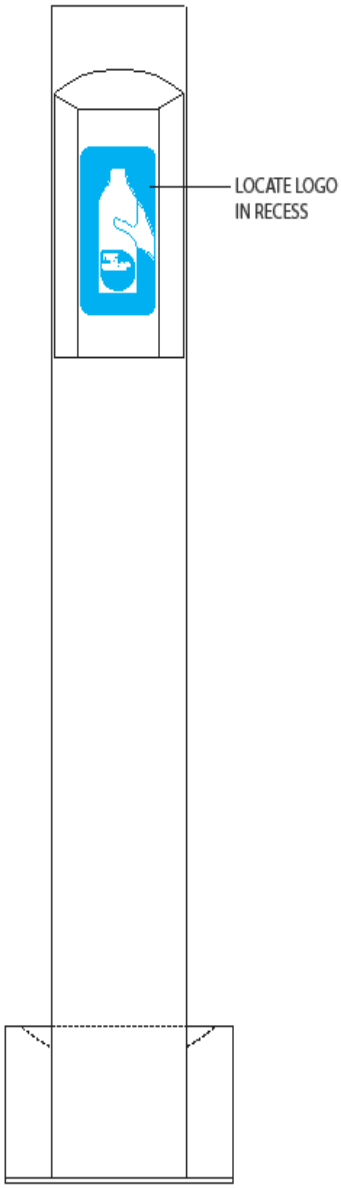
PK-637.07 PRICE TO COVER. The price bid shall be a unit price for **EACH BOTTLE FILLER** and shall include the cost of all labor, materials, equipment, and incidentals necessary or required to complete the work including excavation, broken stone base, sand, polyethylene vapor retarder, geotextile, precast concrete plumbing pit, stainless steel anchor bolts, cleanout pipe, ferrule, manhole frame and Parks Leaf manhole cover, vandal resistant bolts, expansion joint with sealant, logo decal, submittals, all components integral with the bottle filler, all plumbing work and connections to water and drain service within five (5') feet from the center of the tubular body, all in accordance with the plans and specifications, to the satisfaction of the Engineer.

Payment will be made under:

Item No.	Description	Pay Unit
PK-637	Bottle Filler w/ Hi-Lo Drinking Fountain Basins	EA

NYC WATER LOGO





END OF SECTION

SECTION PK-321 – STEEL FENCE AND GATES

PK-321.01 WORK. Under these Items, the Contractor shall furnish and erect **STEEL FENCES** and **GATES** of the types and sizes shown on the plans, in accordance with the plans, specifications, and directions of the Engineer.

PK-321.02 MATERIALS. Unless otherwise specified, the materials shall meet the requirements of the NYCDOT Standard Highway Specifications

A) FENCES AND GATES shall be constructed of solid bars, posts, and rails of the sizes shown on the plans unless specifically noted as lightweight. All material shall conform to Specification ASTM A36.

B) FABRICATION- LIGHTWEIGHT GATE (where specified only): Shall be as manufactured by Shannon Gates and Railings, Deer Park, NY, or approved equal and shall be fabricated from 16G square tubing and 1/2” channels.

C) FABRICATION-STEEL FENCES AND GATES: Fences and Gates shall be fabricated in strict accordance with the plans and approved Shop Drawings. Posts and rails shall be formed into panels of the shapes on the plans and joints completely welded with welds of proper size and shape; all welds ground smooth to a neat finish. Connection shall be provided as indicated on the plans. Welding shall conform to the requirements given in the NYCDOT Standard Highway Specifications.

Posts and pickets shall, in all cases, be truly vertical. Rails and bars shall be parallel to grade as shown on the plans. Panels shall be curved as required by the work. Braces shall be required at two-thirds (2/3) of the way up each post when fence is ten feet (10’) high or over.

D) HINGES: shall be Stanley #BB855, Heavy Duty Steel Ball Bearing Hinge, 5” x 6”, as manufactured by Stanley Hardware, New Britain, CT, Shannon Gates and Railings, Deer Park NY or approved equal.

E) LOCK BOLT- Double Gates: Shall be a drop rod bar arranged to engage the gate stop. Locking device shall be constructed so that the drop rod cannot be raised when the gate is locked. The locking bolt and bolt catch hardware shall be constructed as shown on the standard detail drawings. The locking device shall have provisions for a padlock. All necessary fittings and gate holders to lock gates in both open and closed positions shall be furnished. The locking device shall be as manufactured by Shannon Gates and Railings, Deer Park NY, or an approved equal locking device.

F) GATE LATCH – Single Gates: Shall be a lockable stirrup type. Latch shall be constructed of steel bars and blocks with a stainless steel pin, as shown on the drawings. The ends of stirrups shall be treated with a heavy-duty flexible, rubberized coating such as Plastidip as manufactured by P.D.I. Inc., Circle Pines, MN, or approved equal.

G) PADLOCK: The Contractor shall furnish one padlock for each single gate and each leaf of double gates. The padlocks shall be American No. 5571 as manufactured by American Lock Co., Crete, IL., or approved equal. All padlocks for the same park facility shall be keyed alike, with two inch (2") wide by three-quarter inch (3/4") thick brass body, maximum security, five (5) pin tumblers with hardened alloy steel chrome plated shackle no less than three-eighth inch (3/8") diameter and two inch (2") clearance (elongated shackle). A galvanized steel chain, nine inches (9") long shall be

fastened to the gate and body of the lock. The chain shall be five-sixteenths inch (5/16") by one and three-eighths inch (1 3/8"). The Contractor shall furnish two (2) keys for each padlock.

H) CAST IRON PARKS LEAF – Double Gates: The Park Leaf casting shall be as manufactured by Wemco Castings, Bohemia, N.Y, or approved equal. The City, through NYCDPR, retains exclusive right to the use of the pattern. Leaf castings are to be fabricated from Ductile Iron 65-45-12. The small 9 1/2" leaf shall weigh approximately six pounds (6 lbs.) each. The back of the leaf casting is to be flat and the front face shall be contoured with the veins of the leaf shown in relief. See Contract Drawings for structural details.

Park leaves shall be welded to each leaf of the steel gate in the shop. Field welding will not be permitted.

I) GROUT: Grout for fence posts shall be non-shrink, cement based grout such as Sonogrout 10K as manufactured by BASF Building Systems, Shakopee, MN or SikaGrout 212, as manufactured by Sika Corporation, Lyndhurst, NJ, or approved equal.

J) SEALANT: Sealant around fence post shall be one part polyurethane, elastomeric adhesive such as MasterSeal CR 195, as manufactured by BASF Building Systems, Shakopee, MN or Sikaflex1a, as manufactured by Sika Corporation, Lyndhurst, NJ, or approved equal.

PK-321.03 PAINTING: The fences and gates shall receive three (3) coats of paint. The first coat shall be shop applied; the second and third coat shall be field applied. Immediately prior to painting, all surfaces of fences and gates shall be thoroughly free of debris. All surfaces that are rust free shall be treated in accordance with SP-1, Solvent Cleaning. Treatment shall be performed with a solvent such as mineral spirits, xylol, or turpentine to remove all dirt, grease, and foreign matter. Surfaces that show evidence of scale and rust shall be cleaned in accordance with SP-2, Hand Tool Cleaning, a method generally confined to wire-brushing, sandpaper, hand scrapers, or hand impact tools or SP-3, Power Tool Cleaning, a method generally confined to power wire brushes, impact tools, power sanders, and grinders in order to achieve a sound substrate. After the fence and gates have been cleaned and prepared, they shall be painted as follows:

A) First Coat (Shop Applied): D.T.M.(Direct to Metal) Alkyd semi-gloss P24, as manufactured by Benjamin Moore & Co., Montvale, NJ, or Kem Bond® HS Metal Primer, B50NZ3, red oxide, as manufactured by Sherwin Williams Company, Woodside, NY, or approved equal. Primer shall be a fast drying, 53 to 61% weight solids, low VOC, rust inhibiting, modified alkyd metal primer with a dry film thickness of 1.7 - 5 mils. Paint requires up to two (2) to two and a half (2 ½) hours drying time before recoating (with alkyds).

B) Second Coat and Third Coats (Field Applied): D.T.M.(Direct to Metal) Alkyd semi-gloss P24, Safety Black, as manufactured by Benjamin Moore & Co., Montvale, NJ, or Steel Master 9500 Silicone Alkyd, as manufactured by Sherwin Williams Company, Woodside, NY, or approved equal. Color to be Black unless otherwise shown on the contract drawings. Topcoat shall be a silicon alkyd, semi or high gloss coating having a dry film thickness of 1.7 - 3 mils. Paint requires up to thirty (30) hours drying time @ 50º F; up to sixteen (16) to eighteen (18) hours drying time @ 77º F. Paint adhesion shall be 100% retention in accordance with ASTM D3359, classification 5B.

All paints shall be applied when ambient air temperature is 50 °F minimum and rising. No painting will be allowed below the minimum ambient air temperature. Surfaces to be painted shall be moisture free. In addition, no painting will be allowed below the temperature at which moisture will condense on surfaces; the ambient temperature must be at least 5 degrees F above the dew point.

PK-321.04 INSTALLATION. The fences shall be erected in holes that have been formed in the concrete or stone to receive them. After the posts have been set in place and properly supported to hold them in line and grade, the annular space shall be filled with the specified non-shrink, cementitious grout. The grout shall be flush with the concrete curb. After the grout has cured, the Contractor is to install polyurethane sealant around the fence post. Sealant shall be gunned in between the base of the fence post and the concrete curb. Sealant shall be applied in strict accordance with the manufacturer's instructions, and shall be tooled in as required. **Note: All gypsum (Calcium Sulfate, CaSO4) based grout will be rejected.**

Any fences and gates not set plumb and true to line and grade shall be removed and replaced at the Contractor's expense. The Contractor shall maintain the fences and gates during the life of the contract and shall repair replace all members that are disturbed, damaged, or destroyed.

PK-321.05 SUBMITTALS: All submittals shall be in accordance with the requirements of the S-Pages.

A) Shop Drawings: shall be submitted prior to fabrication. Include plans, elevations, for entire length including all radial panels, sections, details, attachments to existing and stepped conditions, connectors, anchoring and connecting hardware, fence height, post spacing, gate locking device, gate construction, dimensions and unit weights of framework, and lightning protection for all fences. Include schedule for fence uprights and fabrications methods. Indicate all field and shop welds. Detail custom conditions at non-90° angles.

B) SAMPLES: The Contractor shall submit for the approval finished samples of parts of the fences. The workmanship and finish of the final product shall be equal to the approved samples. Only if proposed manufacturer is other than as specified, a full size sample must be submitted for approval for the following: Gate latch for single gate, padlock, cast iron parks leaf.

C) FOUNDRY CERTIFICATE: A certificate verifying the quality of ductile iron for the Parks Leaf shall be submitted. Certificate shall be on Manufacturers' letterhead, dated and signed by the company President with Contract Number, Contract Title, Contractor Name, and Class of Ductile Iron provided.

D) PAINT SUBSTITUTION: A written request for paint substitution must be submitted to the Engineer. The Contractor shall submit this request, along with manufacturer's data sheets for approval, a minimum of two (2) weeks prior to the intended date of paint application. All paint substitutions must be approved in writing prior to use.

PK-321.06 MEASUREMENT AND PAYMENT: The quantity **of STEEL FENCE** to be paid for shall be the number of **LINEAR FEET** of each type of fence furnished and erected complete, regardless of height and material, in accordance with the plans, specifications, and directions of the Engineer.

The quantity of **GATES** to be paid for shall be the number of **EACH** size (including both leaves of double gates and gate posts) furnished and erected complete in accordance with the plans, specifications, and directions of the Engineer, including Park leaf castings where double gates are specified, locking devices, gate stops, and padlocks.

The prices bid shall be unit prices per **LINEAR FOOT** of Steel Fence of each type and a unit price for EACH gate and shall include the cost of all labor, materials, and equipment required to furnish and erect fences

and gates, including painting, grout, sealant, and all incidental expenses necessary to complete the work in accordance with the plans and specifications, to the satisfaction of the Engineer.
Concrete and excavation shall be paid for separately under their respective Items.

Payment will be made under:

Item No.	Item	Pay Unit
PK-321	STEEL FENCE 2’-6” HIGH	L.F.
PK-321A	DOUBLE GATE FOR STEEL FENCE 2’-6” HIGH	EA
PK-321B	SINGLE GATE FOR STEEL FENCE 7’ HIGH	EA
PK-321C	DOUBLE GATE FOR STEEL FENCE 7’ HIGH	EA

END OF SECTION

FLOODWALL - PAGES

SPECIAL FLOODWALL SPECIFICATIONS

CONTRACT SANDRDHK

The specifications in the FLOODWALL-Pages cover the procurement, fabrication, and construction of cut-off walls, floodwalls, floodgate foundations, manhole flood proofing, construction methods and associated works.

The FLOODWALL-Pages supplement the specifications shown on the Specifications and Standards of New York City sheet at the beginning of this Volume 3, which apply to the work except as modified in these Contract Documents.

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TABLE OF CONTENTS

Section Description Page No.

Section RHCR 2 – Bentonite slurry wall 1
Section RHCR-6.18SSF – Steel Security Fence 15
Section RHCR-6.34 – Chain link fence 18
Section RHCR 9.18 – Micropiles 21
Section 9.60 - Shoring and Underpinning 31
Section RHCR-13 – Architectural Concrete Textured Finishes 38
Section RHCR 50 – Floodgates 47
Section RHCR-522 – Jet Grouting 87
Section RHCR 552 - Sheeting 98

[NO TEXT ON TH PAGE]

SECTION RHCR 2 – BENTONITE SLURRY WALL

RHCR 2.01 INTENT

This section describes the construction and methods of the Bentonite Slurry Wall that will be used in the flood protection system as a flood gate foundation. The Contractor must be responsible for selecting parameters, equipment, and construction methods to meet the specified requirements of the Engineer.

RHCR 2.01 GENERAL

(A) The terms used in this Section are defined as follows:

(1) Slurry Trench

a) The slurry trench is a 3 feet minimum width trench excavated through the existing ground or prepared working surface using the slurry method of excavation and backfilled with soil bentonite backfill material, to form a low permeability cutoff wall.

(2) Slurry Method of Excavation

a) The slurry method of excavation consists of excavating a vertical walled trench and at the same time keeping the trench filled with a bentonite slurry mixture. The purpose of the slurry is to support the walls of the trench and prevent movement of ground water.

(3) Bentonite

a) Bentonite is an ultrafine natural clay whose principal mineral constituent is sodium cation montmorillonite.

(4) Slurry

a) Slurry is a colloidal mixture of bentonite and water.

(5) Soil Bentonite Backfill

a) Soil Bentonite backfill is a homogeneous mixture of material produced by mixing soil with bentonite slurry, which is placed into the excavated trench to complete the soil-bentonite slurry trench.

(6) Ground Water Level

a) The ground water level is the piezometric level of the ground water as determined from piezometers and wells.

(7) Working Surface

a) The working surface is the prepared ground surface from which the slurry trench is constructed.

(8) Confining Stratum

a) The confining stratum is the soil stratum or rock unit to or into which the bottom of the slurry trench is excavated.

RHCR 2.01. REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

AMERICAN PETROLEUM INSTITUTE (API)

API RP 13B-1 Recommended Practice for Field Testing Water-Based Drilling Fluids

API Spec 13A (2010; Errata 1 2014; Errata 2-3 2015) Specification for Drilling-Fluid Materials

ASTM INTERNATIONAL (ASTM)

ASTM C143/C143M Standard Test Method for Slump of Hydraulic-Cement Concrete

ASTM D698 Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/cu. ft. (600 kN-m/cu. m.))

ASTM D1140 Standard Test Methods for Determining the Amount of Material Finer than 75-µm (No. 200) Sieve in Soils by Washing

ASTM D2216 Standard Test Methods for Laboratory Determination of Water(Moisture) Content of Soil and Rock by Mass

ASTM D4318 Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils

ASTM D5084 Standard Test Methods for Measurement of Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter

ASTM D7928 Standard Test Method for Particle-Size Distribution (Gradation) of Fine-Grained Soils Using the Sedimentation (Hydrometer) Analysis

U.S. ENVIRONMENTAL PROTECTION AGENCY (EPA)

EPA 600/4-79/020 Methods for Chemical Analysis of Water and Wastes

RHCR 2.02. ACTION SUBMITTALS

(A) SHOP DRAWINGS

(1) A Soil Bentoniteuilt Profile

(B) TEST REPORTS

(1) Soil Bentonite Backfill Test Report

(2) Quality Control Testing

(3) Soundings

(4) Water

(5) Bentonite Slurry Mixes

(6) Slurry Properties

(C) CERTIFICATES

(1) Bentonite

RHCR 2.03. INFORMATIONAL SUBMITTALS

(A) QUALIFICATIONS DATA

(1) In accordance with Section RHCR 2.06, demonstrate experience and volume of work meets requirements specified. Demonstrate capabilities

and experience. Include list of completed projects with project names, addresses, names of architects or engineers and owners.

(B) PRECONSTRUCTION SUBMITTALS

(1) Preconstruction Testing Plan

(2) Slurry Trench Implementation Plan

(3) Source and properties of all materials (water, bentonite, cement, on site soils, borrow soils, and any admixtures)

(C) SAMPLES

(1) Bentonite

(2) Backfill Material

(D) Plan describing the general work sequence and layout of operations. Include scale drawings, which depict slurry and Soil Bentonite backfill preparation and storage areas. Describe Contractor qualifications, equipment, method of trench excavation, use or disposal of excavated material, bottom cleaning, slurry preparation and maintenance, soil bentonite backfill preparation and placement, and site clean-up.

(E) Plan describing quality control equipment and test procedures, sample test forms for reporting test results, and the offsite laboratory proposed for use.

(F) Data on the equipment to be used in the construction of the slurry trench; equipment to be used to obtain samples; equipment to be used to obtain record control samples of the completed slurry trench; and equipment to be used in the Contractor's quality control testing.

(G) A copy of the test results from the bentonite manufacturer for each lot shipped to the site and a certificate of compliance stating that the bentonite complies with applicable standards.

RHCR 2.04. QUALIFICATIONS

(A) The entity performing the slurry wall construction must be experienced in slurry wall operations comparable to that described herein and have at least five (5) years of experience in slurry wall construction methods. Slurry wall construction experience must include at least five (5) projects of similar magnitude and complexity to that required for the program specified herein. Provide qualifications and experience of personnel who are responsible for conducting the operations including references (name and telephone number) of the owners of the Contractor's previous slurry trench construction projects.

(B) The slurry wall construction field superintendent(s) must have experience in slurry wall construction techniques similar to that required for the Work, including at least 2 projects one of which occurred within the past five (5) years, of similar magnitude and complexity to that required for the Work including but not limited to:

(1) The use, testing, and control of bentonite slurries,

(2) The mixing methods required to properly mix the slurry and backfill materials as required,

(3) Trench excavation and backfilling procedures, and

(4) A thorough knowledge of construction equipment and material testing required for slurry trench construction.

(C) The slurry trench excavation equipment operator must have experience using similar slurry trench excavation equipment to be used for this contract in a minimum of 2 projects of similar or greater magnitude (depth and/or area).

RHCR 2.05. QUALITY ASSURANCE

(A) The Engineer may perform quality assurance testing on representative samples obtained by the Contractor of the bentonite slurry and soil bentonite backfill using the laboratory and equipment furnished by the Contractor. The Engineer's testing will in no way relieve the Contractor of the responsibility of performing tests necessary to meet the Construction Quality Control (CQC) requirements. The Contractor must provide the equipment and laboratory space to the Engineer's personnel on demand and these services will be considered a subsidiary obligation of the soil bentonite slurry trench construction at no separate cost. Make all routine testing procedures available for inspection by the Engineer at any time.

RHCR 2.06. DELIVERY, STORAGE, AND HANDLING

(A) Protect materials delivered and place in storage from the weather, dirt, dust or other contaminants.

RHCR 2.07. GEOTECHNICAL SITE CONDITIONS

(A) EXPLORATORY BORINGS

(1) Subsurface exploratory borings have been obtained to determine the character of materials to be excavated. Locations of the borings are shown on the drawings and the logs of those borings, which fall within the area of this contract, are included in the drawings for the convenience of the Contractor. The City assumes no responsibility for interpretation or deductions made from the logs and borings. Local minor variations may exist in the subsurface materials between boring locations and, if encountered, will not be considered as being materially different within the purview of this contract.

RHCR 2.08. MATERIALS

(A) BENTONITE

(1) Provide bentonite consisting of sodium cation base montmorillonite powder that conforms to API Spec 13A, Section 4 and Table 1, located at the end of this section. Chemically treated bentonite will not be allowed. Do not use bentonite from the bentonite manufacturer prior to acceptance by the Engineer. Remove bentonite not meeting specifications promptly from the site at the Contractor's expense. Protect bentonite from moisture during transit and storage. Submit a minimum of 10 pounds of the proposed bentonite at least 1 month prior to use.

(B) WATER

(1) The Contractor must supply suitable water required for mixing with bentonite to produce slurry. Provide clean, fresh water in compliance with the standards specified in Table 1. Submit water quality test results for water used for mixing the bentonite slurry to assure conformance to these

standards. Submit a record of the water source and associated chemical analysis.

(C) BACKFILL MATERIAL

(1) Obtain backfill material from material excavated from the slurry trench. Thirty days prior to utilization of any off-site borrow, identify the site and submit a minimum of 50 pounds of each type of proposed borrow soil, at least 1 month prior to use of each type of material, to the Engineer for QA testing. Furnish backfill that is free of contamination, roots, debris, brush, sod, organic or frozen material. Blend materials thoroughly prior to mixing with bentonite slurry and conform to the following gradation requirements:

Screen Size or Number (U.S. Standard)	Percent Passing by Dry Weight
3 inch	100
No. 4	40-80
40	25-60
No. 200	20-40

RHCR 2.09. EQUIPMENT

(A) Furnish all necessary plant and equipment for use on this project.

(1) Trench Excavation Equipment

a) Provide equipment for excavating the slurry trench of any type or combination of excavating equipment capable of performing the work as specified and shown on the drawings. Provide equipment capable of excavating the required minimum width of trench in a single pass of the excavating equipment. The buckets utilized with such equipment may be perforated, tapered and equipped with bottom-side cutter teeth protruding no more than 6 inches. Design the bucket to maintain the width of the trench and to minimize raveling of the trench sides during use. The equipment must be able to reach at least 10 feet deeper than the maximum depth shown on the drawings.

(2) Slurry Mixing and Cleaning Equipment

a) Equip the slurry mixing plant with a high-speed/high-shear, colloidal mixer or a high-velocity/high pressure venturi jet mixer used in conjunction with a high-speed/high-shear centrifugal pump. Equip the plant with a mechanically or hydraulically agitated sump and include pumps, valves, hoses, supply lines, tools, and other equipment and materials required to prepare the slurry and deliver it in a continuous supply from the hydration pond or tanks to the slurry trench. Provide mixers capable of achieving complete dispersion of bentonite and additives, and capable of continually mixing the slurry to provide and maintain a uniform blended slurry. Provide sufficient ponds or tanks for storage of hydrated bentonite slurry. Slurry cleaning equipment must be available to reduce sand, sediment, or other solids as necessary to maintain the sand content or density requirements of

the slurry in the trench. Slurry cleaning equipment may include but not be limited to vibratory shaker screens, centrifugal sand separators, or stilling ponds.

(3) Field Laboratory Equipment

a) The field laboratory must contain as a minimum the following equipment:

1	Mold and rod for slump test
2	Marsh funnel sets
1	Standard filter press
2	Mud balances (direct reading of density)
1	Slurry sampler
2	Number 200 sieves
1	Set of standard sieves and sieve shaker
1	Oven for moisture content
1	Balance
1	pH meter
2	Sand content sets
1	4-inch Cylindrical mold

RHCR 2.10. BENTONITE SLURRY MIXES

(A) Initial Bentonite Slurry Mixture

(1) Conform to the standards specified in Table 1 at end of the specification.

(B) Trench Bentonite Slurry Mixture

(1) Conform to the standards specified in Table 1 at end of the specification.

(C) Additional Bentonite

(1) If directed by the Engineer, thicken the slurry to a more viscous condition than the limits specified above. Use additional bentonite, as directed.

(D) Additives

(1) Do not mix peptizing agents and bulking agents with the slurry. Approved thinners or dispersants and flocculants of the types used in the control of oil field drilling muds, may be used to control standard properties of the slurry such as apparent viscosity, pH and filtration characteristics.

(E) Soil Bentonite Backfill

(1) Mix the soil bentonite backfill, consisting of backfill material and bentonite slurry thoroughly and conform to the standards specified in Table 1 (at end of specification) just prior to placement in the trench.

RHCR 2.11. GENERAL REQUIREMENTS

(A) Construct the slurry trench to the elevations, lines, grades, and cross-sections shown and in accordance with these specifications, unless otherwise directed. The Engineer may modify the dimensions and quantities of the work as determined necessary. Submit a Slurry Trench Implementation Plan for approval, a minimum of four (4) weeks prior to the start of construction.

RHCR 2.12. WORKING SURFACE

(A) Accomplish slurry trench construction from the working surface. The Contractor shall include the working surface material, dimensions, and compaction requirements in their Slurry Trench Implementation Plan.

(B) In the event that the static ground water table is encountered at a depth of 3.0 foot or less below the designated working surface, at the direction of the Engineer, raise the working surface to a height of 3 feet above the measured static ground water level with approved fill material. Utilize the constructed working surface as a basis for measurement for payment.

RHCR 2.13. SLURRY TRENCH EXCAVATION

(A) Begin excavation from the working surface and provide a vertical (within 2 percent) continuous 3-foot minimum width trench to the required depth along the centerline of the excavation. The Engineer may direct the Contractor to modify the trench depth based on examination of bucket cuttings or drive samples. The toe of the slope of the trench excavation must not precede the toe of the soil bentonite backfill slope by less than 30 feet or more than 100 feet. At the intersection of 2 straight line segments, extend the trench excavation a minimum of 5 feet beyond the outside of the intersection at all depths. If trench excavation overlaps into previously completed slurry trench, extend the excavation a minimum of 10 feet into the previously placed SOIL BENTONITE backfill at all depths. Refill any removed section of completed slurry trench with SOIL BENTONITE backfill at no additional expense to the City.

(1) Confining Stratum Excavation

a) Excavate the confining stratum the full trench width to the depths shown or as otherwise directed. Then sample the confining stratum in accordance with paragraph SAMPLES OF CONFINING STRATUM. Termination of excavation will be approved by the Engineer.

(2) Blasting

a) Blasting shall not be allowed.

RHCR 2.14. SLURRY PLACEMENT AND TESTING

(A) SLURRY PLACEMENT

(1) Introduce slurry into the trench at the time excavation begins. Maintain the level of the slurry in open trenches a minimum of 3 feet above ground water level and no more than 2 feet below the top of the working surface

until the placement of soil bentonite backfill is complete. If the density or sand content of the slurry in the trench does not conform to the standards specified in Table 1 (at end of specification), remove the excess solids from the slurry using approved methods or replace the slurry with fresh slurry. Do not dilute slurry by surface water. Conditioning of the slurry may require recirculation through a shaker screen or the addition of approved additives. Provide sufficient personnel, equipment, slurry storage areas, and prepared slurry materials ready to raise the slurry level at any time in the excavated trench, weekends and holidays included.

(B) SLURRY TESTING

(1) Sample the bentonite slurry in the trench a minimum of 2 times each 8 hour shift (near the beginning and end of each shift), at two depths; approximately 2 feet below the slurry surface and approximately 2 feet above the bottom of the trench. Take samples within 5 feet of the toe of the Soil Bentonite backfill slope. Obtain additional samples at the request of the Engineer at no cost to the City.

RHCR 2.15. EXCAVATED MATERIAL

(A) Use approved materials excavated from the trench as backfill. Excavated materials not approved for backfill shall be removed from the site.

RHCR 2.16. STABILITY

(A) The Contractor is responsible for ensuring and maintaining the stability of the excavated trench at all times, for its full length and depth, and for maintaining slurry densities and levels within specified limits. Control surcharges from all excavation and backfilling equipment, waste, berm construction, backfill stockpiles, and any other loading situations that may affect trench stability. It is the Contractor's sole responsibility to ensure that the mixing of Soil Bentonite backfill and any stockpiles do not affect the open trench stability. In the event of failure of the trench walls prior to completion of backfilling, re-excavate the trench, remove all material displaced into the trench, and take corrective action to prevent further deterioration, at the Contractor's expense.

RHCR 2.17. TRENCH CLEANING

(A) At a minimum, unless otherwise approved, clean the trench bottom at the start of each day. If soil bentonite backfill placement operations have ceased for longer than 24 hours, clean the face of the soil bentonite backfill slope prior to the placement of additional soil bentonite backfill. Probe the trench bottom for any deposits or sloughed materials prior to cleaning. Clean the trench bottom by using an excavator bucket, air lift pump or other approved equipment to ensure removal of sand, gravel, sediment, and other material left in the trench during excavation or which has settled out of the slurry. Do not remove material from the walls of the trench using cleaning equipment. The Engineer may require more frequent cleaning. After the trench bottom has been cleaned, sample the trench bottom with a drive tube or split tube sampler approved by the Engineer. After examining the samples, the Engineer will either approve the excavation at the points checked or require additional cleaning. If additional cleaning is required, then furnish additional samples as specified above.

RHCR 2.18. SOIL BENTONITE BACKFILL MIXING AND PLACEMENT

(A) MIXING

(1) Thoroughly mix SOIL BENTONITE backfill via disking, harrowing, bulldozing, blading, or other approved methods into a homogeneous mass, free from large lumps or clods of soil or pockets of fines, sand, or gravel. Occasional lumps of up to 3 inches in their largest dimension will be permitted. Coat all particles with slurry. The Soil Bentonite backfill may be sluiced with slurry during the mixing operations. Sluicing with water is not permitted. Mix the Soil Bentonite backfill along the side of the trench or other approved location. When mixing the Soil Bentonite backfill along the side of the trench, do not operate heavy equipment such as bulldozers in a back and forth fashion, paralleling the open trench, closer than 15 feet from the lip of the trench. Excess slurry may be allowed to flow back into the trench.

(B) PLACEMENT

(1) Place initial soil bentonite backfill by one of the following methods: (1) Placement by lowering soil bentonite slurry to the bottom of the trench with crane and clamshell bucket, or tremie methods until the surface of the Soil Bentonite backfill rises above the surface of the slurry trench at the end of the trench; (2) Construct a lead-in trench 1H:1V or flatter at a point outside of the limits of work to allow a soil bentonite backfill face to form prior to reaching the full depth of the required slurry trench. No payments will be made for the portions of trenches which lie outside of the limits of work. Proceed with placement operations in such a manner that the slope of the initially placed soil bentonite backfill is maintained. Free dropping of soil bentonite backfill through the slurry is not permitted. Place the soil bentonite backfill so that it will slide down the forward face of the soil bentonite backfill slope. Place the soil bentonite backfill in the excavated trench so that no pockets of slurry are trapped and that a constant slope is maintained. Make placement continuous from the beginning of the trench in the direction of the excavation to the end of the trench.

(C) MIXING AND PLACING DURING COLD WEATHER

(1) Do not mix or place the soil bentonite backfill when the air temperature is below 20 degrees F. Do not place frozen soil bentonite backfill in the trench and do not use backfill material containing frozen lumps to mix soil bentonite backfill.

(D) TESTING

(1) When required, take additional samples for permeability testing at full depth of the completed slurry trench using 3 inch thin wall (Shelby) tubes. If test results do not meet the requirements listed in Table 1, take corrective action as determined by the Engineer.

RHCR 2.19. SOUNDINGS

(A) Take excavation and soil bentonite backfill soundings every 20 feet along the trench centerline using a weighted tape, cable, or other approved device. Submit

a record of soundings and measurements taken during construction of the slurry trench. Measure soundings to the nearest 0.1 ft. Measure the following:

(1) Elevation of Top of Confining Stratum

a) Determine the top of the confining stratum based on examination of samples taken as described under paragraph SAMPLES OF CONFINING STRATUM. This elevation is subject to approval.

(2) Elevation of Trench Bottom Prior to Backfilling

a) Determine the elevation of the trench bottom after the trench has been cleaned and approved as described under paragraph Trench Cleaning. Do not precede the toe of the soil bentonite backfill slope more than 50 feet. This elevation is subject to approval by the Engineer.

(3) Profile of soil bentonite Backfill Slope and Trench Bottom

a) Sound the soil bentonite backfill slope and trench bottom at the beginning and end of each shift, and at additional times as directed, at intervals of 20 feet.

RHCR 2.20. **A SOIL BENTONITE AS-BUILT PROFI**LE

(A) Continuously maintain a Soil Bentonite As-Built profile of the trench bottom and SOIL BENTONITE backfill slopes, including descriptions of materials encountered in the trench bottom. Indicate extent of excavation and the soil bentonite backfill profile at the end of each work day. Submit a scale drawing providing a log of the subsurface materials excavated from the trench, and a profile of the completed slurry trench.

RHCR 2.21. TREATMENT OF TOP OF SLURRY TRENCH

(A) Prior to placement of the compacted trench cover, place a temporary plastic sheeting cover over the trench to prevent desiccation. Place the temporary cover material within 2 days after soil bentonite backfill placement is completed over each 100 foot reach. If any depression develops within the completed slurry trench area, repair it to the satisfaction of the Engineer. Only drive heavy construction equipment and machinery over the slurry trench at approved heavy equipment crossing points.

RHCR 2.22. QUALITY CONTROL TESTING

(A) Provide Quality Control Inspectors as necessary for bentonite slurry preparation and maintenance, trench excavation, and soil bentonite backfill preparation and placement. Submit all test results.

(1) Bentonite Tests

a) Perform a minimum of 1 test for each specified requirement for each truck or rail car shipment delivered to the site.

(2) Water Tests

a) Perform a minimum of 1 test for each specified requirement for each water source used. Perform testing as specified in Table 1.

(3) Backfill Material Tests

a) Perform one set of backfill material tests, as specified in Table 1, for every 500 cubic yards used.

(4) Slurry Properties

a) Allow slurry to hydrate a minimum of 8 hours prior to use. Test the initial bentonite slurry prior to placing in the trench and a minimum of 2 times each 8 hour shift per mixing plant. Submit a record of bentonite slurry mix quantities, proportions of additives utilized, and adjustments for each batch.

(5) SOIL BENTONITE Backfill Tests

a) Perform sampling and testing, in accordance with the approved Preconstruction Testing Plan, just prior to placing soil bentonite backfill in the trench as shown in Table 1. Calculate the density of the Soil bentonite backfill using a 4 inch cylindrical mold as described in Paragraph 6 of ASTM D698. Place soil bentonite backfill in the mold and rod 10 times. Then add additional soil bentonite backfill to fill the mold. Use the weight and volume of the molded soil bentonite backfill to determine the density. Determine density at a rate of 1 test for every 1000 cubic yards. Take a sample of soil bentonite backfill for permeability testing just prior to placement in the trench for every 500 cubic yards. Submit a Plan providing a list of test equipment, procedures, and materials to be used to verify the mix design for the soil bentonite backfill and a soil bentonite Backfill Test Report containing the results of the tests performed, a report summarizing the procedures and results of the Pre-construction soil bentonite backfill mix tests. Include a description of mix proportions, gradations, slumps, densities, permeabilities, and moisture contents of 3 samples of the final soil bentonite backfill mix using the bentonite and backfill materials proposed for use. Submit a minimum of 50 pounds of each type of proposed borrow soil at least 1 month prior to use.

RHCR 2.23. CLEAN-UP

(A) Remove excavation spoil, unused soil bentonite backfill, and excess slurry following completion of soil bentonite backfill placement. It is the Contractor’s responsibility to properly dispose of these materials.

RHCR 2.24. MEASUREMENT AND PAYMENT

(A) The quantity of slurry wall construction to be measured for payment shall be by the cubic yard, measured to the nearest cubic yard per column, within only the “neat” plan area of the proposed slurry wall shown on the Contract Drawings or approved by the Engineer. The volume shall be determined by multiplying the "neat" area within this zone times the actual depth of the slurry wall. Slurry wall installed to overcome unknown obstructions shall be included in the total measured quantity of slurry wall construction, as accepted by the Engineer.

(B) Additional quantities of slurry wall installed by the Contractor during remixing to achieve the performance requirements, or that are outside the limits of the slurry wall shown on the Contract Drawings without the acceptance of the Engineer will not be measured for payment.

RHCR 2.25. PRICE TO COVER

(A) The Contract unit price for slurry wall shall cover the cost of all labor, materials, plant, equipment, insurance, samples, testing, and incidentals required to furnish and install the slurry wall within the plan area coverages over the depths and limits shown on the Contract Drawings, in full compliance with the requirements of the specifications. Slurry wall construction that does not meet the specific performance requirements shall be satisfactorily repaired or replaced by the Contractor at no cost to the City.

Payment will be made under:

Item No.	Item	Pay Unit
RHCR-2	SLURRY WALL FOR FLOODWALL FOUNDATION AND GATE	CY

TABLE 1 - BENTONITE SLURRY TRENCH QUALITY CONTROL TESTING		
Property	Requirement	Test Method
Bentonite Powder		
YP/PV Ratio	1.5 max.	API Spec 13A
Plastic Viscosity	> 10	API Spec 13A
Filtrate Loss	< 12.5 cubic cm	API Spec 13A
Moisture Content	< 10 percent	ASTM D2216
Chemical Analysis of Water		
pH	6 to 8	API RP 13B-1
Hardness	< 50 ppm	API RP 13B-1
Total Dissolved Solids	< 500 ppm	EPA 600/4-79/020 Method 160.1
VOCs	Maximum Contaminant Level (MCL)	SW-846 Method 5030B/8260B
SVOCs	MCL	SW-846 Method 3510C/8270C
TPH	MCL	SW-846 Modified 8015
Metals	MCL	SW-846 3005A/6010C
Pesticides	MCL	SW-846 3510C/8081A/8141A
Initial Bentonite Slurry		
Viscosity	> 40 sec	API RP 13B-1
Density	> 64 pcf	API RP 13B-1
Filtrate Loss	< 20 cubic cm	API RP 13B-1
pH	6.5 to 10	API RP 13B-1
In-Trench Bentonite Slurry		

BENTONITE SLURRY TRENCH QUALITY CONTROL TESTING		
Property	Requirement	Test Method
Density	64-85 pcf and at least 15 pcf less than SOIL BENTONITE backfill density	API RP 13B-1
Viscosity	> 40 sec	API RP 13B-1
pH	6.5 to 10	API RP 13B-1
Sand Content	10 percent max.	API RP 13B-1
Backfill Material		
Grain Size	Para. 2.1.3	ASTM D7928
Moisture content	For record	ASTM D2216
Fines Content	Para. 2.1.3	ASTM D1140
Atterberg limits	Para. 2.1.3	ASTM D4318
Soil Bentonite Backfill		
Slump Cone	4-6 inches	ASTM C143/C143M
Density	For Record	ASTM D698 and Para. 2.4.5
Permeability	< 1 x 10-7 cm/sec	ASTM D5084
1) If more than one (1) batching plant is being used, these frequencies must apply to each batching plant separately.		
2) Permeability tests may be performed using an approved fixed wall permeameter except that for every 5 such tests, there must be 1 test using a flexible wall permeameter. Fixed wall test methods and procedures must be submitted and approved prior to use.		
3) Flexible wall permeability tests must be performed at a maximum effective confining pressure of 10 psi and a maximum hydraulic gradient of 30.		

END OF SECTION

SECTION RHCR-6.18SSF – STEEL SECURITY FENCE

RHCR 6.18SSF.01 DESCRIPTION

This work shall consist of all labor, materials, and equipment to complete industrial ornamental steel fence system as shown on the Drawing. All work shall be in accordance with the contract documents.

RHCR 6.18SSF.02 GENERAL

(A) The manufacturer chosen shall supply a total industrial ornamental steel fence system meeting the specifications herein and those on the contract drawings. The system shall include all components (i.e., pickets, rails, posts, gates and hardware) as required.

RHCR 6.18SSF.03 REFERENCES

(A) ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy Coated (Galvannealed) by the Hot-Dip Process.

(B) ASTM B117 - Practice for Operating Salt-Spray (Fog) Apparatus.

(C) ASTM D523 - Test Method for Specular Gloss.

(D) ASTM D714 - Test Method for Evaluating Degree of Blistering in Paint.

(E) ASTM D822 - Practice for Conducting Tests on Paint and Related Coatings and Materials using Filtered Open-Flame Carbon-Arc Light and Water Exposure Apparatus.

(F) ASTM D1654 - Test Method for Evaluation of Painted or Coated Specimens Subjected to Corrosive Environments.

(G) ASTM D2244 - Test Method for Calculation of Color Differences from Instrumentally Measured Color Coordinates.

(H) ASTM D2794 - Test Method for Resistance of Organic Coatings to the Effects of Rapid Deformation (Impact).

(I) ASTM D3359 - Test Method for Measuring Adhesion by Tape Test.

(J) ASTM F2408 – Ornamental Fences Employing Galvanized Steel Tubular Pickets.

RHCR 6.18SSF.04 QUALITY ASSURANCE

(A) The contractor shall provide laborers and supervisors who are thoroughly familiar with the type of construction involved and materials and techniques required to fully install the fence system.

RHCR 6.18SSF.05 INFORMATIONAL SUBMITTALS

(A) Construction Procedure Documents – develop and submit written procedures for the execution and sequencing of the work. These procedures shall be used by the contractor and incorporated into a Quality Control Checklist.

RHCR 6.18SSF.06 ACTION SUBMITTALS

(A) SHOP DRAWINGS. Shall be submitted prior to manufacture.

(B) SAMPLES. The contractor shall submit for approval finished samples of parts of the fence. The workmanship and finish of the final product shall be equal to the approved sample.

RHCR 6.18SSF.07 MATERIAL

(A) Steel material for fence framework (i.e. tubular pickets, rails and posts), shall be galvanized prior to forming in accordance with the requirements of ASTM A653/A653M, with minimum yield strength of 45,000 psi (310 MPa). The steel shall be hot-dip galvanized to meet the requirements of ASTM A653/A653M with a minimum zinc coating weight of 0.90 oz/ft2 (276 g/m2), Coating Designation G-90.

(B) Pickets shall be 1" square x 16 Ga. Tubing and

(C) Rails shall have an outside cross-section dimension of 1.375" square and a minimum thickness of 11 Ga.

(D) Picket connections to rail shall be by aluminum drive rivets.

(E) Concrete for footings shall be Class B-32, Type IIA; cement - Type II Portland; sand - Type 1A; coarse aggregate Type 1, Grade B, or Type 2, Size No. 57; and an approved air-entraining agent shall be added at the time that concrete is mixed. Concrete, cement and aggregate shall comply with the requirements of with New York City Department of Transportation's Standard Specification Section 3.05.

RHCR 6.18SSF.08 FABRICATION

(A) Pickets, rails and posts shall be precut to specified lengths as shown on contract drawings. Pickets shall be predrilled to accept rivets.

(B) Finish shall consist of an electrostatic spray application of an epoxy base, and a separate electrostatic spray application of a polyester finish. The base coat shall be a thermosetting epoxy powder coating (gray in color) with a minimum thickness of 2 mils (0.0508mm). The topcoat shall be a polyester powder coat finish with a minimum thickness of 2 mils (0.0508mm). The color shall be Black.

(C) Alternative finish systems may be proposed by the specific manufacturer chosen for consideration. The stratification-coated framework shall be capable of meeting the performance requirements for each quality characteristic shown in the Table below.

Quality Characteristics	ASTM Test Method	Performance Requirements
Adhesion	D3359 – Method B	Adhesion (Retention of Coating) over 90% of test area (Tape and knife test).
Corrosion Resistance	B117, D714 & D1654	Corrosion Resistance over 3,500 hours (Scribed per D1654; failure mode is accumulation of 1/8" coating loss from scribe or medium #8 blisters).
Impact Resistance	D2794	Impact Resistance over 60 inch lb. (Forward impact using 0.625" ball).

Weathering Resistance	D822 D2244, D523 (60˚ Method)	Weathering Resistance over 1,000 hours (Failure mode is 60% loss of gloss or color variance of more than 3 delta-E color units).

(D) Completed sections (i.e., panels) shall be capable of supporting a 600 lb. load applied at midspan without permanent deformation. Panels shall be biasable to a 25% change in grade.

(E) Swing gates shall be fabricated using 1.375" x 11ga rail, 2" sq. x 14ga. gate ends, and 1" sq. x 16ga. pickets. Gates that exceed 6' in width will have a 1.75" sq. x 14ga. intermediate upright. All rail and upright intersections shall be joined by welding. All picket and rail intersections shall also be joined by welding. Gusset plates will be welded at each upright to rail intersection. Cable kits will be provided for additional trussing for all gates leaves over 6'.

(F) Pedestrian swing gates shall be self-closing, having a gate leaf no larger than 48" width. Integrated hinge-closer set (2 qty) shall be ADA compliant that shall include a variable speed and final snap adjustment with compact design (no greater than 5" x 6" footprint). Hinge-closer set (2 qty) shall be tested to a minimum of 500,000 cycles and capable of self-closing gates up to a maximum gate weight of 260 lbs. and maximum weight load capacity of 1,500 lbs. Hinge-closer device shall be externally mounted with tamper-resistant security fasteners, with full range of adjustability, horizontal (.5" - 1.375") and vertical (0 - .5"). Maintenance free hinge-closer set shall be tested to operate in temperatures of negative 20 F to 200 F degrees, and swings to negative 2 degrees to ensure reliable final lock engagement.

RHCR 6.18SSF.09 MEASUREMENT

The quantities of Steel Security Fence, Steel Swing Gate, Pedestrian Swing Gate, to be measured for payment shall be the number of linear feet of each type satisfactorily installed, complete, measured in place along the top of fence, from center to center of end posts.

RHCR 6.18SSF.10 PRICE TO COVER

The price bid for Steel Security Fence shall and Steel Gate shall be a unit price per linear foot of each size fence or gate, and shall cover the cost of all labor, materials, plant, equipment, insurance, and necessary incidentals required to furnish and install new posts, rail, pickets and all fittings and hardware necessary to erect the chain link fence and gate, complete in place, including excavation, backfilling and concrete footings where necessary; furnish samples for testing, as may be required; and completing the work; all in accordance with the Contract Drawings, the specifications and the directions of the Engineer.

Payment will be made under:

Item No.	Item	Pay Unit
RHCR 618SSF14	STEEL SECURITY FENCE – 14-FT HIGH	LF
RHCR 618SSF14-SW	STEEL SECURITY SWING GATE -14-FT HIGH	LF
RHCR 618SSF14-PSW	STEEL PEDESTRIAN SWING GATE – 14-FT HIGH	LF

END OF SECTION

SECTION RHCR-6.34 – CHAIN LINK FENCE

RHCR 6.34.01 DESCRIPTION

Under this section, the Contractor shall furnish and erect new chain link fence, posts, gates, coil wire and all necessary incidentals in accordance with the Contract Drawings, the specifications and the directions of the Engineer.

Relocated chain link fence shall consist of removing existing fence in its entirety, cleaning posts to the satisfaction of the Engineer, storing fence, and reinstalling chain link fence in the new work where shown on the Contract Drawings or as directed by the Engineer.

Removed chain link fence shall consist of removing and disposing of existing chain link fence, including foundation, where shown on the Contract Drawings or as directed by the Engineer.

RHCR 6.34.02. MATERIALS.

All materials shall comply with the New York City Department of Transportation's Standard Details of Construction Standard Drawing Nos. H-1009 and H-1021, with the following exceptions:

(A) Fabric for fencing shall be aluminum-coated steel wire complying with the requirements of AASHTO Designation M 181.

(B) Tie wire shall be aluminum alloy 1100-H14.

(C) Concrete for footings shall be Class B-32, Type IIA; cement - Type II Portland; sand - Type 1A; coarse aggregate Type 1, Grade B, or Type 2, Size No. 57; and an approved air-entraining agent shall be added at the time that concrete is mixed. Concrete, cement and aggregate shall comply with the requirements of with New York City Department of Transportation's Standard Specification Section 3.05.

(D) Barb wire shall be standard two strand, Class 1 zinc coated, 12.5 gauge, twisted and with four point barbs with standard spacing.

RCHR 6.34.03 METHODS.

All methods shall comply with New York City Department of Transportation's Standard Details of Construction Standard Drawing Nos. H-1009 and H-1021 and Contract Drawings. All debris must be satisfactorily disposed of away from the site by the Contractor.

Relocating chain link fence shall consist of removing existing fence in its entirety, cleaning posts to the satisfaction of the Engineer, storing fence, and reinstalling chain link fence in the new work where shown on the Contract Drawings or as directed by the Engineer. All additional materials as may be required to re-erect the fence including the replacement of missing or damaged parts as a result of the Contractor's operations, must comply with the requirements of Subsection RHCR 6.34.02., above, and shall be deemed included in the price bid to Relocate Chain Link Fence.

Removing chain link fence shall consist of careful removal of the existing fence and demolish of its foundation to at least two (2') feet below existing grade or proposed grade, whichever is deeper, between the limits shown on the Contract Drawings or directed by the Engineer. The Contractor

must then fill the excavated areas with compacted clean sand to the subgrade of the new proposed pavement. Unless otherwise directed, all materials removed shall become the property of the Contractor and shall be removed and disposed of away from the site. In addition, care shall be exercised by the Contractor in the removal of the fence. Any damage to adjacent areas to remain caused by the Contractor's operations shall be repaired or replaced in kind, to the satisfaction of the Engineer, at the expense of the Contractor.

RHCR 6.34.04 MEASUREMENT.

The quantities of Chain Link Fence, Chain Link Fence with Barb Wire, Chain Link Fence Gate, and Relocate Chain Link Fence to be measured for payment shall be the number of linear feet of each type satisfactorily installed, complete, measured in place along the top of fence, from center to center of end posts.

The quantity of Remove and Dispose of Existing Chain Link Fence to be measured for payment shall be the actual number of linear feet of existing fence removed, complete with its foundation, measured in place along the top of fence, from center to center of end posts.

RHCR 6.34.05 PRICES TO COVER.

The price bid for Chain Link Fence and for Chain Link Fence Gate shall be a unit price per linear foot of each size fence or gate, and shall cover the cost of all labor, materials, plant, equipment, insurance, and necessary incidentals required to furnish and install new posts, chain link fabric, top and bottom coil wires, barb wire and all fittings and hardware necessary to erect the chain link fence and gate, complete in place, including excavation, backfilling and concrete footings where necessary; furnish samples for testing, as may be required; and completing the work; all in accordance with the Contract Drawings, the specifications and the directions of the Engineer.

The price bid for Relocate Chain Link Fence shall include the cost of furnishing all labor, materials, plant, equipment, insurance, and necessary incidentals required to remove the existing chain link fence in its entirety, clean the posts to the satisfaction of the Engineer, store, and reinstall the chain link fence in the new sidewalk where shown on the Contract Drawings or as directed by the Engineer. Reinstallation of the chain link fence shall comply with the methods specified under Subsection RHCR-6.34.03., above.

The price bid for Remove and Dispose of Existing Chain Link Fence shall be a unit price per linear foot of existing fence removed and disposed, and shall cover the cost of all labor, materials, plant, equipment, insurance, and incidentals required to complete the work, including but not limited to the demolition of fence foundations and backfilling as required, all in accordance with the Contract Drawings, the specifications, and the directions of the Engineer.

Payment will be made under:

Item No.	Item	Pay Unit
RHCR-6.34 AA	CHAIN LINK FENCE, 3’- 6” HIGH	L.F.

RHCR-6.34 AB	CHAIN LINK FENCE, 4'- 0" HIGH	L.F.
RHCR-6.34 AC	CHAIN LINK FENCE, 6'- 0" HIGH	L.F.
RHCR-6.34 AD	CHAIN LINK FENCE, 8'- 0" HIGH	L.F.
RHCR-6.34 ADB	CHAIN LINK FENCE, 8'- 0" HIGH W/ BARB WIRE	L.F.
RHCR-6.34 AE	CHAIN LINK FENCE, 10'- 0" HIGH	L.F.
RHCR-6.34 AF	CHAIN LINK FENCE, 12'- 0" HIGH	L.F.
RHCR-6.34 AG	CHAIN LINK FENCE, 14'- 0" HIGH	L.F.
RHCR-6.34 AH	CHAIN LINK FENCE, 16'- 0" HIGH	L.F.
RHCR-6.34 AI	CHAIN LINK FENCE, 18'- 0" HIGH	L.F.
RHCR-6.34 BA	CHAIN LINK FENCE GATE FOR 3'- 6" HIGH FENCE	L.F.
RHCR-6.34 BB	CHAIN LINK FENCE GATE FOR 4'- 0" HIGH FENCE	L.F.
RHCR-6.34 BC	CHAIN LINK FENCE GATE FOR 6'- 0" HIGH FENCE	L.F.
RHCR-6.34 BD	CHAIN LINK FENCE GATE FOR 8'- 0" HIGH FENCE	L.F.
RHCR-6.34 BE	CHAIN LINK FENCE GATE FOR 10'- 0" HIGH FENCE	L.F.
RHCR-6.34 BF	CHAIN LINK FENCE GATE FOR 12'- 0" HIGH FENCE	L.F.
RHCR-6.34 BG	CHAIN LINK FENCE GATE FOR 14'- 0" HIGH FENCE	L.F.
RHCR-6.34 BH	CHAIN LINK FENCE GATE FOR 16'- 0" HIGH FENCE	L.F.
RHCR-6.34 BI	CHAIN LINK FENCE GATE FOR 18'- 0" HIGH FENCE	L.F.
RHCR-6.34 CC	CHAIN LINK FENCE WITH TENSION WIRES, 6'- 0" HIGH	L.F.
RHCR-6.34E	RELOCATE CHAIN LINK FENCE	L.F.
RHCR-6.34X	REMOVE AND DISPOSE OF EXISTING CHAIN LINK FENCE	L.F.

END OF SECTION

SECTION RHCR 9.18 – MICROPILES

RHCR 9.18.01 INTENT

This section describes micropiles for use in the flood protection structures, watermain supports, and the interceptor gate building foundation.

RHCR 9.18.02 SETTING OUT

The Contractor must employ a licensed surveyor to lay out the piles at the locations shown on the design drawings. The Contractor is responsible for the accuracy of the installed piles' locations.

RHCR 9.18.03 DESCRIPTION

Micropiles, under this section, shall refer to all micropiles used for the floodwall and floodgate structures, watermain supports, and the interceptor gate building foundation.

RHCR 9.18.04 CONSTRUCTION QUALIFICATIONS

(A) The micropile installer shall be experienced in the construction and field load testing of Micropiles and should have successfully completed at least 5 projects involving installation and axial and lateral testing micropiles, with a total of no less than 100 micropiles of comparable capacity to those required in the current project plans and drawings. This should include micropiles installed in rock and in soil.

(B) The Contractor must assign a licensed Engineer in the City of New York to supervise the construction work. The Engineer should have a relevant experience of no less than 3 years.

RHCR 9.18.05 MATERIALS

(A) Permanent Casing. Provide casing consisting of flush joint type steel pipe of appropriate thickness to withstand the stresses associated with advancing it into the ground, in addition to the stresses due to hydrostatic and earth pressures. The diameter of the cutting shoe of the casing shall not exceed the outer diameter of the casing by more than 0.25 Inch.

(B) Casing/Pipe used as Reinforcement. Provide steel casing/pipe used as reinforcement conforming to API SCT N80 steel with 80 ksi yield strength. Mill secondaries cannot be used for reinforcement.

(C) Bar Reinforcement. Provide bar reinforcement meeting the requirements of ASTM A615, Grade 75, or continuously threaded "uncoated high-strength steel bars for prestressing concrete" - ASTM A722.

(D) Casing shall be flush joint, and the pipe joint shall be completely shouldered and with no stripped threads.

(E) Grout. Provide a pumpable grout consisting of, as a minimum, Portland Cement – Type II and water that provides a stable, homogenous neat cement grout with a minimum 28-day unconfined compressive strength of 5,000 psi.

(F) Centralizers and Spacers. Provide centralizers and spacers fabricated from

schedule 40 PVC pipe, tube, steel, or material non-detrimental to the reinforcing steel. Wood shall not be used.

RHCR 9.18.06 CONSTRUCTION SEQUENCE

(A) The Contractor must submit for the Engineer's approval the installation sequence of the piles.

RHCR 9.18.07 SUBSURFACE CONDITIONS

(A) The Contractor must make themselves comfortable with the soil and groundwater subsurface condition on site prior to the start of any construction work at no additional cost to the City.

RHCR 9.18.08 SUBMITTALS

(A) Shop Drawings Prepare and submit to the Engineer, for review and approval, working drawings and relevant calculations for micropile installation at least 21 days prior to planned start of construction.

(B) Submit a detailed description of the construction procedures proposed for use. This shall include a schedule of major equipment resources. Indicate methods and equipment that will be used to containerize waste, including but not limited to soil cuttings, spoils, and drilling fluid, generated as part of the micropiles installation. The construction procedures shall be submitted for Engineer review and approval prior to the start of any work.

(C) The working drawings shall include micropile installation details giving the following:

1. Micropile number, location and installation sequence.
2. Micropile design load.
3. Type and size of reinforcing steel.
4. Minimum total bond length.
5. Grout volumes and maximum pressures.
6. Micropile cut-off elevation.

(D). For reinforcing steel, submit certified mill test reports, properly marked, for reinforcing steel, as the materials are delivered. The ultimate strength, yield strength, elongation, and composition shall be included. For steel pipe used as permanent casing, or core steel, and anchor plates, submit a minimum of two representative coupon tests or mill certifications (if available) on each steel heat delivered to the project site.

(E). Submit the grout mix designs, including details of all materials to be incorporated, and the procedure for mixing and placing the grout to Engineer for review and approval prior to ordering any materials. This submittal shall include certified test results verifying the acceptability of the proposed mix designs.

(F). Installation Records: The following records shall be prepared for each micropile installed, within 24 hours after each pile installation is completed. The records shall include the following minimum information:

1. Pile drilling date, time, duration and observations (e.g., flush return, relevant site observations).
2. Pile measured dimensions
3. Length of rock socket (if any)
4. Details of used equipment
5. Weather conditions
6. Information on soil and rock encountered, including description of strata, water, etc.
7. Final location of pile (northing and easting coordinates) surveyed by a New York State Licensed surveyor (this information may be furnished within a week of installation completion)
8. Final elevation of micropile including top and bottom of bond length.
9. Cut-off elevation.
10. Design loads.
11. Description of unusual installation behavior, or conditions.
12. Any deviation from the intended parameters.
13. Grout pressure attained, where applicable.
14. Calculated expected grout volume (estimated prior to piles' installation)
15. Measured grout quantities pumped.
16. Pile materials and dimensions.
17. Micropile test records, analysis, and details.

(G). Pile Load Test Procedure and Set-Up

1. Submit the proposed set-up plan and procedure for performing the required static compression pile load tests, static lateral load tests, and static uplift pile load tests, for review and approval by the Engineer prior to starting any tests. The proposed location of the test piles is as indicated on the Contract Drawings.

RHCR 9.18.09 TEST REPORTS

(A). Provide pile load test results for both compression and tension load tests as required in this section of the Specifications.

(B). As-built drawings showing the location of the piles, their depth and inclination, and details of their composition shall be submitted within 15 days after installation of all production piles.

RHCR 9.18.10 METHODS

(A). DRILLING AND EXCAVATION

1. Protect existing structures, including overhead and buried utility lines. Contractor must perform exploratory test pits in the area of the proposed micropile installation as required to first expose any buried utilities prior to any drilling at no additional cost to the City.
2. The Contractor must follow the requirements in Con Ed Specification CE-SI-1080 Guidelines for Protecting Existing Underground Transmission Electric Facilities from Nearby Construction Activities for any micropiles being installed adjacent to Con Ed electric facilities.

3. Advance the hole using a duplex drilling method. Do not drill or flush ahead of the drill casing by more than 1 foot. When cleaning the inside casing 2 diameters or two feet should be maintained behind the tip of the outer casing. Perform drilling and excavation in such a manner to prevent collapse of the hole. Use of bentonite slurry is not permitted. Use of polymer slurry to remove cuttings from the cased hole shall be approved by the Engineer.
4. If obstructions are encountered during installation for a pile, progress through them by means of coring or a tri-cone roller bit. Use of drop-type impact hammers and blasting are not permitted.
5. Use of a down-the-hole hammer must be approved by the Engineer.
6. Control the procedures and operations so as to prevent mining, damage, or settlement/deformation to adjacent structures, tunnels, utilities, or adjacent ground. If any damage or settlement occurs halt operations. Provide a written plan to the Engineer for review with procedures to avoid reoccurrence. Resume work only after the Engineer has approved the plan in writing. Repair all damage and settlement/deformation at no additional cost to the City.
7. Control the procedures and operations so as to prevent the soil at the bottom of the hole from flowing into the hole at all times during installation and cleaning out. Monitor the rate of fluid flow used to progress the holes.
8. Control drilling fluid and dispose of spoil in accordance with the approved procedure.
9. The Contractor must follow the installation procedure outlined in the Contract Drawings. Any deviation from the latter should be approved by the Engineer.
10. Do not progress a hole or pressure-grout within a radius of 5 pile diameters or 5 feet, whichever is greater, of a micropile until the grout for that micropile has set for 24 hours or longer if a retarder is used.
11. Obstructions, including but not limited to rock fragments, cobbles, boulders, and rubble fill are expected during installation of micropiles. It is Contractor's responsibility to assess the impact of obstructions on micropile installation and take measures to overcome the obstructions without causing additional cost to the City.
12. If, during installation of a pile, an obstruction is encountered that prevents the practical advancement of the hole, the hole shall be abandoned and filled with grout. A new pile shall be drilled at a location to be determined by the Engineer, although it must be acknowledged that in certain structures, relocation options may be severely limited, and further attempts at the original location with different methods may be required.
13. Location of existing utilities shall be field verified prior to drilling. The Contractor shall expose all existing utilities prior to installation of micropiles. It is the Contractor’s responsibility to avoid damaging existing underground utilities during micropile installation.
14. The micropiles shall be constructed according to the size, depth, and methodology shown on the Contract Drawings.

(B). REINFORCEMENT AND GROUT TUBE PLACEMENT

1. Provide centralizers sized to position the reinforcement within 3/8 inch of plan location from the center of the pile; sized to allow grout pipe insertion to the bottom of the drillhole; and sized to allow grout to freely flow up the drill hole and casing and between adjacent reinforcing bars. Centralizers, spaced not to exceed 10 feet, must be used to center the reinforcement for its entire length. Securely attach the centralizers to withstand installation stresses. Do not drop but lower the steel reinforcement to its specified location in the hole.

(C). GROUTING

1. The Contractor must provide systems and equipment to measure the grout quality, quantity, and pumping pressure during the grouting operations. This information is to be measured and recorded by the Contractor. The grouting shall be performed immediately after the finish of drilling and flushing of the hole. No drilling of one micropile shall be performed if grouting is not expected to be finished for the same micropile immediately after drilling.
2. After drilling, the hole shall be flushed with water to remove drill cuttings and/or other loose debris. All drilling fluid along with cuttings and debris shall be collected in containers for future disposal. Prior to placement of grout, the Contractor shall verify that the bottom of the pile is clean and has reached the required tip elevation and that the bond length in soil or rock as shown in the Contract Drawings has been achieved. The grout shall not contain lumps or any other evidence of poor or incomplete mixing. Admixtures, if used, shall be mixed in accordance with manufacturer's recommendations.
3. The Contractor shall perform grouting in a way to minimize grout loss to joints in cavities. The Contractor shall be responsible for any overrun of grout beyond the theoretical micropile volume and take it into consideration in their bid. In case the grout does not return to the top of casing (during the initial grouting phases – prior to the pressure grouting stage) after 120 percent of theoretical grout volume for this pile has been consumed, the Contractor may let the grout set and redrill and regrout the micropile. In such case, the pile has to be field tested in compression up to 1.6 times the design load (not to exceed 80% of the structural pile capacity) and following the Quick test loading procedure outlined in the latest ASTM D 1143 standard. It shall be the Contractor's responsibility to deal with the potential grout loss issue.
4. Grout within the micropiles shall be allowed to attain the minimum design strength prior to being loaded. No load test shall be performed before the specified grout strength has been reached.
5. All relevant details including grouting pressure, volume, location and mix design, shall be submitted for Engineer approval.
6. The Contractor must adhere to the outlined pile installation process and grouting methodology in the Contract Drawings.

(D). PILE SPLICES

1. Casing sections shall be joined by manufactured thread joints constructed to develop at least the required compressive and tensile, and/or bending structural strength used in the micropile design. Threaded pipe casing joints shall be located at least two casing diameters (OD) from a splice in any reinforcing bar.

2. Reinforcing steel shall be spliced using approved couplers from the reinforcing steel manufacturer and shall develop the ultimate tensile strength of the bars without evidence of any failure.
3. Lengths of casing and reinforcing steel to be spliced shall be secured in proper alignments and in such a manner that no eccentricity between the axes of the two lengths spliced or angle between them results.

(E). GROUT PLACEMENT

1. Provide quality control of the mix by monitoring grout quality. Measure grout consistency by determining grout density per API Recommended Practice (RP) 13B- 1 by the Baroid Mud Balance Test at a frequency, of at least one test per micropile, and provide the information to the inspector.
2. The grout shall be injected using 0.75 Inch diameter PVC grout tube to within 2 feet of the bottom of the casing. Grouting of the pile should proceed from the bottom of the pile to displace the drilling fluid until grout flows out the top of the pile. All grouting operations associated with activities including, but not limited to, partial pulling of casing and pressure grouting, must ensure complete continuity of the grout column. The use of compressed air to directly pressurize the fluid grout is not permissible. The grout pressures and grout takes shall be controlled to prevent excessive heave in cohesive soils or fracturing of soil or rock formations. The entire pile shall be grouted to the design cut-off level.
3. Following the grouting of the pile, the reinforcing thread bars and spacers should be introduced and pushed to the bottom of the pile. This is to be followed by pulling the casing on 5 feet increments while pumping grout and maintaining 75 psi grout pressure (pressure not to exceed 100psi at any point). The final (permanent) casing length and bond zone length are outlined in the Contract Drawings. Grouting of bond zone to cease if over 150% of the theoretical column in pumped in. Theoretical grout volume to be determined by the Contractor. Detailed installation procedure shown on Contract Drawings should be followed.
4. The pump shall be equipped with a pressure gauge to monitor grout pressures. The pressure gauge shall be capable of measuring pressures of at least 150 psi or twice the actual grout pressures used by the Contractor, whichever is greater. The grouting equipment shall be sized to enable the grout to be pumped in one continuous operation. The grout should be kept in constant agitation prior to pumping.
5. The City will perform quality assurance of the mix design.
6. Testing a set of six 2 Inch by 2 Inch cubed of grout to be tested every day during which micropiles are grouted. Cubes to be tested at independent accredited laboratories Contractor to record the initial volume of grout required to fill the hole. Contractor to record grouting pressure and volume of grout being pumped into the pile during pressure grouting. Upon completion, maintain the grout level at or above the pile cut off elevation until the grout has set.
7. Locate the grout pressure and volume measuring gages at the pile installation site so that they are accessible and legible to the inspector.
8. Grouting of bond zone to cease should no more than 150% of the

theoretically calculated volume is pumped in. The theoretical grout volume to be determined by the Contractor.

(F). CONSTRUCTION TOLERANCES

1. Install the piles so that the center of each micropile does not vary from the tolerances indicated on the Contract Drawings. Should piles be installed outside these tolerances, the Contractor should suggest corrective actions (at the cost of the Contractor) for the Engineer's approval.
2. Cut off the top of the pile casing at the elevation indicated on the Contract Drawings.
3. During production pile installation, prepare and test a minimum of one set of samples from each batch of grout used during production pile installation, but no less than one set per day. Perform one 7-day and one 28-day unconfined compressive strength tests per ASTM C780 Annex A6. The remaining sample shall be tested at 56-days if 28-day strength does not meet specifications.
4. Test results shall be submitted to the Engineer within 3 days from the finish the grout strength test. If the grout strength of a particular micropile is less than the specified strength, the Engineer may require the Contractor to prove the design capacity of the specific micropile by performing additional proof load test or to install additional micropile to replace the specific micropile with inadequate grout strength at no additional cost to the City.
5. The Contractor should adhere to all tolerances outlined on the Contract Drawings.

(G). WELDING

1. All welded connections of casing shall be performed by in accordance with AWS D1.1 and D1.5. These requirements do not apply to minor welding that does not carry structural load, such as cutting teeth and tacking on bearing plates.

(H). PILE LOAD TESTING

1. Follow the pile load testing requirements specified on the Contract Drawings. The proposed locations of the test piles are indicated on the Contract Drawings.
2. Static compression pile load tests shall be performed on those test piles in accordance with ASTM D1143 following New York City Building Code, and as indicated on the Contract Drawings. Piles shall be tested to a load 200% of the allowable compression pile capacity provided on the Contract Drawings, using the Standard Procedure.
3. Static tension pile load tests shall be performed on those test piles in accordance with ASTM D3689 following New York City Building Code, and as indicated on the Contract Drawings. Piles shall be tested to a load 200% of the allowable compression pile capacity provided on the Contract Drawings, using the Standard Procedure.

4. Lateral pile load tests shall be performed on those fixed head test piles per ASTM 3966 Standard Test Methods for Deep Foundations Under Lateral Load requirements and in accordance with the notes on the Contract Drawings.
5. The Contractor must retain the services of a New York State Licensed Professional Engineer to perform load tests on the micropiles at the locations shown in the Contract Documents.
6. The Contractor must notify the City of the pile loading test schedule at least one week prior to the start of testing.
7. A test report, in accordance with ASTM D1143, shall be submitted for each compression pile load test. A test report, in accordance with ASTM D3689, shall be submitted for each tension pile load test. A test report in accordance with ASTM 3966 shall be submitted for each lateral pile load test.

(I). VIBRATION MONITORING

1. Follow the vibration monitoring requirements specified on the Contract Drawings, **Section RHCR-76.21**, and specified herein.
2. Where installing micropiles adjacent to critical structures, generated vibrations shall be monitored at the critical structures. Detected vibration levels at the monitored structures shall not exceed a peek particle velocity level greater than 0.5 in./sec. For a list of critical structures, refer to **Section RHCR-76.21**.
3. During micropile construction, the Contractor should observe the conditions in the vicinity of the construction site for signs of ground heave or subsidence. Should the Contractor observe any signs of ground deformation and/or damage/deformation of adjacent structures to the construction site, the Contractor must immediately notify the Engineer and suspend drilling or grouting operations until further notice from the Engineer. The Contractor must follow the suggested corrective actions by the Engineer.

RHCR 9.18.11 UNSATISFACTORY PILES

In case of unsatisfactory piles results not complying to the outlined requirements in this specification and/or the Contract Drawings, the Contractor ay suggest mitigation measures and submit for the Engineer’s approval. Unsatisfactory results include, but are not limited to piles with grout not reaching required strength, piles installed out of the outlined acceptable tolerances in this document and on the Contract Drawings, piles with measured (from field test) capacity lower than required capacity outlined on the Contract Drawings

RHCR 9.18.12 MEASUREMENT

(A). The quantity of micropiles to be measured for payment shall be per linear feet, measured to the nearest half foot, installed to the satisfaction of the Engineer. No payment or allowance will be made for micropiles installed beyond the limits specified.

(B). The quantity of micropile installation through existing foundation to be measured for payment shall be per each instance, as indicated on the Contract Drawings, installed to the satisfaction of the Engineer. No payment or allowance will be made for micropiles installed beyond the limits specified.

RHCR 9.18.13 PRICE TO COVER

A. The Contract unit price for micropiles shall cover the cost of all labor, materials, plant, equipment, insurance, samples, and incidentals required to furnish, and install in full compliance with the requirements of the specifications and drawings. The cost of exploratory test pits to locate utilities, any loss of grout, and the removal of any obstructions that may interfere with the installation of the micropiles to the specified elevations will be included in the unit price. Vibration Monitoring to be covered by Item No. RHCR-76.21MR.

B. The Contract unit price for micropile installation through existing foundation shall cover the cost of all labor, materials, plant, equipment, insurance, and incidentals required to install, in full compliance with the requirements of the specifications and drawings, micropiles through existing concrete foundations or slabs encountered during installation of the micropiles, including trucking and disposal of removed concrete. This per each cost is in addition to the unit cost per vertical foot of micropile.

Payment will be made under:

Item No.	Item	Pay Unit
RHCR9.18.08A	9.625 IN O.D. X 0.480 IN. WALL THICKNESS MICROPILE - PLUMB	VF
RHCR9.18HG	13.625 IN. O.D. X 0.480 IN. WALL THICKNESS MICROPILE - PLUMB	VF
RHCR 9.18.08B	MICROPILE INSTALLATION THROUGH EXISTING FOUNDATION	EACH
RHCR 9.18HGPLT-C	PILE LOAD TESTING FOR 13.625 IN. O.D. X 0.480 IN. WALL THICKNESS MICROPILE — STATIC COMPRESSION LOAD TEST	EACH
RHCR 9.18HGPLT-T	PILE LOAD TESTING FOR 13.625 IN. O.D. X 0.480 IN. WALL THICKNESS MICROPILE — STATIC TENSION TEST	EACH
RHCR 9.18HGPLT-L	PILE LOAD TESTING FOR 13.625 IN. O.D. X 0.480 IN. WALL THICKNESS MICROPILE — LATERAL LOAD TEST	EACH
RHCR 9.18.08PLT-C	PILE LOAD TESTING FOR 9.625 IN. O.D. X 0.480 IN. WALL THICKNESS MICROPILE — STATIC COMPRESSION LOAD TEST	EACH
RHCR 9.18.08PLT-T	PILE LOAD TESTING FOR 9.625 IN. O.D. X 0.480 IN. WALL THICKNESS MICROPILE —	EACH

	STATIC TENSION TEST	
RHCR 9.18.08PLT-L	PILE LOAD TESTING FOR 9.625 IN. O.D. X 0.480IN. WALL THICKNESS MICROPILE — LATERAL LOAD TEST	EACH

END OF SECTION

SECTION 9.60 - SHORING AND UNDERPINNING

RHCR 9.60.1 INTENT.

This section describes shoring and underpinning of existing structures

RHCR 9.60.2 DESCRIPTION.

Shoring and underpinning provides the means to transfer the structure load from an existing foundation to a new foundation. Shoring and underpinning shall be designed to furnish a safe and permanent independent support for each structure, using such methods as specific conditions. Shoring and underpinning includes, but is not limited to:

(A). Temporary and permanent supports for existing structures or structural elements, duct banks, pipes or other utilities.

(B). Monitoring of movements.

(C). The Contractor will be solely responsible for maintaining, at all times, the safety, stability and integrity of every structure and facility regardless of location, which might be affected by his work.

(D). The Contractor will be responsible for any damage due to his work and for any corrective action or repairs needed to restore any damaged structure or facility to its condition prior to the start of work.

RHCR 9.60.3 RELATED SECTIONS

(A). Section 3.06, Filler; Joint, Air-entrained Cement-grout

(B) Section 4.06, Concrete in Structures

(C) Section 4.11, Excavating and Filling

(D) Section 5.37, Construction Report

(E) Section 7.16, Test Pits

RHCR 9.60.4 CONTRACTOR'S RESPONSIBILITIES.

(A) The Contractor is solely responsible for the safety, stability and integrity of all structures affected by Work. The Contractor must, at his own expense, provide the services of qualified Professional Engineers registered in the State of New York for the Work as specified herein.

(B) The Contractor must consult the records of adjacent construction and of existing utilities and their connections, and shall perform a field condition survey on all affected structures and document actual dimensions and existing physical conditions.

(C) As required and/or directed by the Engineer the contractor shall excavate a test pits adjacent to each structure where record information is not available and/or additional information is needed assess existing conditions.

(D) The start of shoring and underpinning shall be contingent on the results of the investigation of existing conditions.

(E) The Contractor must be cognizant of conditions and limitations which may influence the Work and shall take proper measurements for these conditions.

(F) The Contractor must not proceed with the Work until unsatisfactory conditions, as determined by the Contractor or the Engineer, have been corrected in a manner acceptable to the Engineer.

(G) The Contractor must protect as required all public and private properties adjacent to the Work. The Contractor shall at his own expense make repairs to damaged property necessitated by reasons of, or occurring in the course of, operations under this Contract, to the complete satisfaction of the Engineer and the property owner (City or private) of the damaged property.

(H) The Contractor must be responsible for providing shoring and underpinning as may be needed for prevention of movement and to protect affected structures.

(I) The Contractor must obtain all necessary permits for shoring and underpinning structures and any required reconstruction.

RHCR 9.60.5 SUBMITTALS.

The Contractor shall submit Shop Drawings and material specifications for the approval of the Engineer. Shop Drawings shall include, but not be limited to:

(A) Detailed drawings for the proposed shoring and underpinning work, including plans, elevations, sections and details.

(B) Proposed construction sequence, procedures and schedule including arrangement and method of assembly of the proposed shoring and underpinning system. Provide procedures for preloading of system, if applicable.

(C) The drawings showing all of the above information, including calculations, shall be prepared by a qualified Registered New York State Professional Engineer and must bear his signature and seal.

(D) Description of proposed equipment including data for gages and jack calibration certified by an accepted testing agency.

(E) Anticipated construction equipment loads.

(F) Product data for all materials.

(G) The Contractor shall also submit:

1. Detailed drawings indicating reference point locations of existing structures or utilities.
2. A preconstruction survey report establishing the condition of all adjacent structures.
3. Structures monitoring program including schedule and proposed instruments.
4. Complete procedures for detection of vertical or horizontal movement in existing structures.

RHCR 9.60.6 QUALIFICATIONS

(A) The shoring and underpinning Work shall be performed by the Contractor or a Subcontractor specializing in and having experience installing, maintaining and monitoring shoring and underpinning systems in similar circumstances for at least five (5) years.

(B) Shoring and underpinning systems mst be designed by a Professional Engineer registered in the State of New York, having experience in successfully designing systems for similar conditions.

RHCR 9.60.7 MATERIALS

(A) Timber shall be Douglas Fir or Southern Pine, Dense No. 2 with a minimum allowable bending stress of 1,200 psi. Timber in contact with the ground shall be treated in accordance with the requirements NYCDOT Standard Specification **Section 2.40, Timber and Lumber**

1. Treated Timber and Lumber.

(B) Steel: All steel for rakers, braces, wales, struts, plates, edges and shims shall conform to ASTM A36 and NYCDOT Standard Specifications **Section 2.35, Structural Steel**.

(C) Hardware:

1. Bolts and nuts shall be heavy hex head conforming to ASTM A307.
2. Expansion anchors shall be carbon steel conforming to ASTM A108, and shall be galvanized in accordance with ASTM A153
3. Headed studs shall be carbon steel conforming to ASTM A108.

(D) Concrete:

1. Cement, aggregate, reinforcing steel and mixes shall be as specified in NYCDOT Standard Specification **Section 4.06, Concrete in Structures**.

2. Mixes shall conform to the following requirements:

a. Concrete piers shall conform to Class 45F with 3/4-inch maximum

aggregate size.

b. Subgrade concrete workmat shall conform to Class 25.

c. Drypack grout shall conform to NYCDOT Standard Specifications **Section 3.06, Filler; Joint, Air-entrained Cement-grout**

d. Backpacking shall be a mixture of one bag Portland cement and one cubic yard of concrete sand.

(E) Earthwork shall conform to NYCDOT Standard Specification **Section 4.11, Excavating and Filling**

(F) Miscellaneous:

1. Jacks, pumps and gages shall have certified calibration curves less than one (1) year old.

2. Wedges shall be forged steel or white oak.

RHCR 9.60.8 METHOD.

(A) GENERAL REQUIREMENTS

1. The Contractor shall exercise care throughout the progress of the Work to avoid damage to the existing work remaining in place, and to adjacent structures, and in the event of any such damage, the Contractor shall replace or repair such affected work to the satisfaction of the Engineer and without additional cost to the City.

2. Shoring and underpinning may be cast or included in permanent construction, if approved by the Engineer.

(B) STRUCTURES EXAMINATION.

Prior to starting the Work, the Contractor, the City and the Engineer shall make a joint inspection of the existing structures to examine and document their present conditions.

Photographs shall be taken by the Contractor to record any exterior or interior conditions of a structure that may become the subject of damage claims.

As required and/or directed by the Engineer test pit(s) shall be excavated adjacent to each structure to a depth adequate to assess the existing foundation, however minimized to ensure existing foundation is not undermined. All work shall conform to NYCDOT Standard Specifications **Section 7.16, Test Pits**

The Contractor shall prepare a Pre-Construction Report for each structure documenting all pre- existing conditions, verified by the photographs, and signed by the personnel of the Contractor, the City and the Engineer participating in the investigation. The Pre-Construction Report shall be in accordance with the requirements of NYCDOT Standard Specifications **Section 5.37.3 (A) Preconstruction Report.**

The structures to be examined under this Contract are shown on the Contract Drawings or indicated in the Detailed Specifications.

(C) STRUCTURES MONITORING

1. A monitoring program shall be prepared by a qualified Professional Engineer licensed and registered in the State of New York and shall bear his or her signature and seal and submitted for review/approval.

2. The firm will be required to perform the monitoring during construction activity and submit reports to the Engineer as required or as directed by the Engineer. These reports shall include sketches noting the location of all monitoring points. Should any of the criteria set forth in the Pre-Construction Report be exceeded, the Engineer shall be notified immediately.

3. The Monitoring program shall conform to the requirements of NYCDOT Standard Specifications **Section 5.37.3 (B) Reports During Construction.**

(D) PREPARATION.

Prior to the start of shoring and underpinning Work, and where shown on the Contract Drawings, specified in the Detailed Specifications, or identified in the monitoring program, the Contractor must establish a system of vertical movement monitoring (settlement) and lateral movement monitoring (offset reading points) on the potentially affected structures or utilities and on elements of the shoring and underpinning system. Baseline readings shall be made three (3) days prior to the start of the work.

The Contractor shall provide a contingency shoring plan or alternate procedures to be implemented if excessive movement, as defined in the Detailed Specifications, is evident. The Contractor shall keep on hand materials and equipment necessary to implement the contingency shoring and underpinning plan.

The Contractor shall locate existing utilities in the work area and determine if they interfere with the proposed work and notify the Engineer immediately if interference is found. Work shall proceed with caution in areas of known utility facilities.

(E) PERFORMANCE OF THE WORK

1. Excavation:

   a. Subgrade of all underpinning piers, heelblocks, deadmen, footings and walls will be inspected and no concrete shall be placed until approval is granted by the Engineer. Concrete should be placed within eighteen(18) hours of attaining approved undisturbed subgrade or the Contractor may pour a lean concrete workmat to prevent disturbance of the subgrade.

   b. Excavations shall be limited to the lines, grades and elevations shown on the Contract Drawings. The Contractor shall immediately backfill and compact overexcavated areas.

c. All pit excavations shall be protected with temporary covers.

d. Excavated material shall not be stockpiled adjacent to pits or existing walls.

e. If unstable material is encountered during excavation, the Contractor shall take suitable measures to contain it in place and prevent ground displacement.

2. Lagging:

a. Lagging shall be installed true to line and location in accordance with the Contract Drawings. Excavation for the installation of lagging shall be carefully performed to minimize voids behind the timber.

b. Depth of excavation below installed breastboards shall not exceed twenty-four (24) inches. Boards shall be separated sufficiently as they are installed to permit back-packing behind the breastboards with a dry sand-cement mixture to eliminate any voids resulting from the excavation.

c. If the soil is over excavated by more than six (6) inches behind the lagging and the over excavation extends more than one (1) foot in any direction in the plane of the wall, then grout shall be used for back- packing of the over excavation.

3. Concreting:

a. Where applicable, the underside of the existing footing or wall above shall be cleaned. Any standing water shall be removed from pits or excavations unless a tremie operation is intended.

b. Concrete shall be placed and cured as specified in General Specification 03300 - Cast-in-Place Concrete. Where applicable, pits shall be filled with concrete to approximately three (3) inches below the bottom of the existing footing or wall above.

4. Drypacking:

a. Drypack shall be placed between new concrete and existing surfaces after the new concrete has cured for a minimum of twenty-four (24) hours.

b. Surfaces shall be moistened prior to drypacking. Drypacking shall be rammed or rodded into place to completely fill the intended space, removing all voids.

5. Steel Wales, Struts, Braces and Rakers:

a. Wales and braces shall be shimmed to provide continuous bearing between the steel and existing surfaces. If steel shims are used, they shall be welded in place; timber shims shall be nailed in place.

b. Rakers shall be wedged to a snug fit. If steel wedges are used, they shall be welded in place; timber wedges shall be nailed in place.

(F) REMOVAL OF SHORING AND UNDERPINNING

1. The Contractor must maintain shoring and underpinning until structural elements are rebraced and resupported and permanent construction is able to withstand all loads.

2. When it is determined by the Contractor that the shoring and underpinning is no longer required, the Contractor shall obtain the Engineer's concurrence to proceed with its removal.

3. Any damages to the structures shall be the sole responsibility of the Contractor and the contractor must bear the entire cost of correcting any such damage.

(G) POST CONSTRUCTION REPORT

Within 30 days of the completion of all work that necessitated monitoring, the firm shall prepare a report detailing the results of the monitoring program (“Post Construction Report”). The Post Construction Report shall include a comparison of all assumptions and field-measured values. Should there be excessive discrepancies between the two, an explanation shall be presented within the report. This report shall include sketches of all monitoring points. Should this contract provide for the installation of piles the Post Construction Report shall include the location and length of all piles driven superimposed on the geological profile. The Resident Engineer shall provide the location and lengths of piles.

RHCR 9.60.9 MEASUREMENT.

The Contractor will be paid the fixed sum price bid for completing all of the work required to be done hereunder. In the event of deletion of parcels by the Engineer or if it is determined monitoring, shoring and underpinning is not required or is performed by others, the fixed sum price bid will be adjusted in accordance with a pro-rated rate based on number of properties where work is completed.

RHCR 9.60.10 PRICE TO COVER.

The fixed sum price bid or the adjusted lump sum price shall include the cost of all labor, materials, plant, equipment, and insurance necessary or required to prepare the reports including, but not limited to, building examinations, construction monitoring, preparation of Construction Reports, Excavation, Installation of temporary and permit underpinning and shoring systems in whole and all other work incidental thereto; all in accordance with the specification and as directed by the Engineer.

Payment will be made under:

Item No.	**Item Pay**	Unit
9.60	UNDERPINNING	FS

END OF SECTION

SECTION RHCR-13 – ARCHITECTURAL CONCRETE TEXTURED FINISHES

RHCR 13.01 DESCRIPTION

This work shall consist of all labor, materials, and equipment to complete the Architectural Concrete Textured Finishes as shown on the Drawings with designated patterns and textures. Work in this section is supplementary to project cast-in-place concrete. All work shall be in accordance with the contract documents:

RHCR 13.02 GENERAL

(A) The Contractor is responsible for the design ad architectural concrete textured finishes to be in conformance with requirements of the Contract Documents, and as approved by the Engineer. All work shall be performed using the highest standards of quality for visual and durable concrete and shall rest with the contractor.

(B) PERFORMANCE CRITERIA

The completed formed concrete surfaces shall match the color and texture of the approved sample panels. All textured finish work shall be performed so that no evidence of the following will be evident when the formwork is removed:

(1) Damage of any kind.

(2) Formwork fastening penetrations or formwork anchoring devices or projections other than approved embedded items.

(3) Out of alignment or incorrect profiles.

(4) Discoloration caused from form liner staining.

If any of the above-mentioned deficiencies occur, the Engineer may order the affected concrete replaced or repaired with acceptable results. Repair only when directed by the Engineer. Corrected deficiencies must meet with the Engineer's approval. All remedial work shall be performed at a location approved by the Engineer and shall be submitted as tests prior to any repair work being accomplished.

RHCR 13.03 MATERIALS

(A) FORMLINER PANELS

(1) Shall be custom manufactured 100% pure urethane form liners mold bonded to ACX plywood. Urethane form liner thicknesses as required to obtain pattern indicated. Ensure support systems required to carry all loads while maintaining all finish requirements, alignment of joints and seams, thickness of materials, location of surface in space, true to line and plane, and designed to provide for leak-proof seams between panels.

(2) Liner types shall be a "Varied Weave Pattern" with multiple modules as shown on Drawings.

a) Formliner/facing modules shall be sized to minimize seams or joints in the finish surface and follow module variations as shown on Drawings.

b) Mating edge surfaces of form liner shall be accurately formed and fabricated so that individual alignment of panels is accurate and remains tight resulting in monolithic appearance of finish surface.

c) Anchors for fastening formliner/facing system to backup form shall be concealed, providing secure positive anchorage, use screw type fasteners of size and shape required to firmly anchor formliner to form system facing. Formliner shall be back-fastened to backup form system so that no fasteners appear in the finish concrete surface.

d) Integrate plywood or other suitable reinforcing into formliners for anchorage, back-fastening, and proper support of formliner, to prevent distortion of surfaces under loads encountered preparing and placing concrete, and to maintain shape, size, and stability of formliner.

e) Right angle edges of forms where surface to be exposed in finish concrete shall be without radius, arris or bevel, unless otherwise indicated in the Drawings. Fabricate flanges to provide accurate alignment between units, to provide uniform compressive pressure between forms, to prevent loss of fluid during concrete placement, and dimensional support for formliner.

(3) Acceptable Form Liner Manufacturers:

a) Architectural Polymers, Inc., 1220 Little Gap Road, Palmerton, PA 18071, PH: 610.824.3322, W: www.apformliner.com

b) Scott System, 10777 E. 45th Avenue, Denver, CO 80239, PH: 303.373.2500, W: www.scottsystem.com

c) Fitzgerald Formliners, 1500 East Chestnut Avenue, Santa Ana, CA 92701, PH: 714.245.9715, W: www.formliners.com

d) Or, an approved equal.

(4) Smooth Surface Panels**:** Flat form surfaces shall be plastic coated material as follows:

a) Panels shall be ¾" thick, in sizes to minimize joint lines and produce required straight, uniform, square edge, level seams, construction joints and edges.

b) Pine plywood, minimum 7 plies per inch thickness. Panels shall be faced with a high-density plastic overlay (HDO).

c) Birch plywood, minimum 14 plies per inch thickness, with heavy duty plastic overlay surface on both sides. Edges shall be sealed in manufacture.

(5) All smooth surface formwork panels shall have sealed, square edges, and have square corners. Butted edges of panels, when multiple panels are assembled together, shall not vary more than 1/16 inch in 10 ft. in any butted joint.

(B) RELEASE AGENTS. For all formwork surfaces shall be colorless, non-staining and have no deleterious effects on the finished concrete, manufactured specifically for non-absorbent surfaces and for reducing surface voids. Formwork for custom

formliners shall also be treated as directed by the custom form liner manufacturer. Form release material shall be on the NYSDOT's Approved List of Manufacturers and compatible with the formliner material.

(C) FORM TIES

Shall be manufactured specifically for use as concrete ties and shall be designed to seal tightly to the form face material without fluid loss. Ties shall be of sufficient strength to resist fluid concrete placing pressures and formwork elongation at the longest span of support used in the project. Ties shall be one of the following as approved by the Engineer:

(1) Fiberglass rod tie system with screw tie clamp grippers:

a) Gripper shall have a screw adjustable device between the rod gripper and the form contact surface. Rod size shall be minimum 3/8 in. and maximum 3/4 in. diameter as approved after use on the mockup.

(2) Cone/Tube/Rod or Cone/Coil/Rod tie system with screw tie clamps.

a) Cone size shall be maximum 1-1/2 in. diameter for coil spreader and 2 in. for tube spreader. Depth of cone shall be minimum 1-1/2 in.

All ties proposed for the work shall be used in the mockup structure for review and selection by the Engineer.

(D) JOINT SEALER**.** Seal formwork abutting edge conditions against fluid loss utilizing the following:

(1) Foam gaskets for sealing field erected corner form joints shall be highly compressible foam rubber or neoprene tape, paper backed, with pressure sensitive adhesive on one side, and shall be of sufficient width and thickness for specific use.

(2) Sealant for sealing permanent shop or bench fabricated unrevealed joints shall be non-staining, silicone caulking.

Large field joint gaps use aerosol applied expanding foam, type suitable for use intended. Use where form units abutting irregular materials and foam tape not sufficiently compressed or strong enough to stop fluid concrete leakage from formwork. Do not allow foam to expand into surface contact area of exposed concrete.

(E) PATCHING MATERIAL. The patching material, technique, and match with adjacent surfaces shall be approved by the Engineer prior to any patching. Plastering and skim coating of surfaces will not be allowed.

RHCR 13.04 QUALITY ASSURANCE

(A) The work of this section shall be performed by a concrete contractor who specializes in the type of finish work required for this project, with a minimum of five years documented successful experience and shall be performed by skilled workers thoroughly trained in the necessary trades to perform the work. Prior to commencing with the work, the contractor shall submit resumes, references, and photographs/locations of prior work examples of textured finish concrete surfaces for approval by the Engineer.

(B) The concrete contractor shall assign a quality control person to oversee the architectural concrete textured finish work. The primary duty is to be responsible for

the required execution of the work. The Concrete Quality Control Technician shall develop a check list for execution of the work and for sign off by the concrete superintendent and be submitted to the Engineer. The Quality Control Technician shall understand and be familiar with the requirements of this section.

(C) After approval of products and samples and as early as possible, but not less than 30 days prior to the fabrication of the formwork, a pre-installation meeting shall be scheduled with the manufacturer's representative, contractor, and Engineer to discuss the materials, methods of forming, coordinating and quality control procedures involved in the Architectural Concrete Textured Finish work and the interface with related work.

(D) The success of this Project depends greatly upon visual elements of construction that require review, selection and acceptance of samples and mockups at an early stage. Items of primary visual concern – concrete mix materials, urethane liner facing materials, concrete samples, and mockups shall be submitted as soon as possible. Verify list of priority items with the Engineer, notify Engineer of any impediments to providing priority samples.

RHCR 13.05 INFORMATIONAL SUBMITTALS

(A) Do not proceed with the construction of the architectural concrete textured finish in the project, including fabrication of the formwork, until all samples, product data, mock-up and shop drawings have been approved by the Engineer. Contractor shall submit for approval:

(B) Product Data / Qualifications for the materials specified herein, including but not limited to:

(1) Custom urethane form liner manufacturer; liner tolerances, anchoring methods, backing requirements

(2) Smooth surface panel

(3) Form release agent

(4) Form tie solution

(5) Joint sealers

(6) Concrete patching material

List – project names and locations of three similar past projects of the manufacturer and installer.

Item Samples – custom urethane form liner, joint seal material, and form ties.

(C) Construction Procedure Documents – develop and submit written procedures for the execution and sequencing of the work. These procedures shall be used by the contractor and incorporated into a Quality Control Checklist.

RHCR 13.06 ACTION SUBMITTALS

(A) SHOP DRAWINGS. Plans, elevations, and sections to show detailed layout of all textured finish concrete work and interfacing adjacent concrete work, including the mockups. Show all flood walls and retaining walls. Include relevant liner panels, ties, depressions, openings, recesses, reveals, control joints, and construction

joints. Shop drawings shall include detailed numbering and/or identification system used to positively identify urethane liner modules.

(B) SAMPLE PANELS: Prepare formwork and cast concrete for sample walls as follows:

(1) Cast two (2) - 4’ wide x 4’ high x 12” thick wall panels, with reinforcement replicating design wall reinforcing, and specified weave pattern indicated on Drawings. Each tombstone showing different liner module on one entire face. Each tombstone to show panel seams and reveals, cast vertically to test proposed design mix, and formwork facing materials.

(2) Cast panels simulating techniques to be used in production to reduce surface area voids and achieve the specified criteria. Forms shall be constructed with fluid tight square corner seams.

(3) Adjust mixes and placing techniques as required between each panel to achieve the best placing technique for the mix. Submit as required to obtain approval of Engineer.

(4) Apply water repellent sealer to half of finish surface of each tombstone.

(5) Apply anti-graffiti treatment over half of water repellant finish treatment following manufacturer’s written instructions.

(C) MOCK-UP FOR FORMED CONCRETE WORK: After all samples, product data, and the shop drawings for the Mock-up are approved, construct mock-ups of the architectural concrete textured finish work in a location approved by the Engineer and as described below. Mock-ups and mock-up submissions for the concrete work shall consist of the following:

(1) Mock-ups shall be as detailed.

(2) Prepare and submit a “Lessons Learned” report after completion of each mock-up for review and discussion with the Project Team.

(3) Additional mock-ups or partial mock-ups shall be required if the above mock-ups are deficient in producing the quality required for the project.

(4) Mock-ups shall consist of the following**:**

a) Foundation of a size and reinforcement adequate to support the work at the designated location.

b) Scope of Visual Mock-up**:** Flood wall section using form liner weave ribbon pattern: “J” shaped in plan, 5 feet high and 12” thick, show 10-foot-long straight section, form liner seams, and typical joints in the project.

c) Mock-up shall be placed in a minimum of two placements.

d) One vertical construction joint in wall.

e) Include any embeds as they would be required for wall construction and cast-in elevation markings as shown on Drawings.

f) Include typical wall elevation step and radii bulk heads with dimensions as shown on the Drawing’s.

g) Apply 717-03 - Penetrating Type Protective Sealer (ITEM 559.16960118) to one half of the mockup according the manufacturer's instructions.

h) Apply anti-graffiti protection coating (ITEM 559.90010011) over Penetrating Type Protective Sealer according to manufacturer's instruction in an area approved by Engineer.

i) Reinforce as in a similar detail on the drawings and add necessary reinforcing and/or supports to maintain stability.

j) Use approved form facing materials, reinforcement and accessories and assemble formwork using methods as intended for construction and to achieve the specified requirements.

k) Place concrete with methods to be used in construction, including anticipated time delays between placements. Place concrete to achieve the specified requirements.

l) Finish exposed hardened surfaces of the walls with specified finish treatments when directed by the Engineer.

m) Use approved concrete design mixes, inclusive of specified admixtures, for the mock-ups as will be used in the construction of the formed surfaces.

(5) If mock-ups do not meet the specified quality and are not approved, remove and replace in full or in part at no additional cost. Mock-ups shall be located so they will remain throughout construction. Protect mock-up from damage. Remove mock-up only when directed by the Engineer.

RHCR 13.07 FORMWORK

(A) GENERAL REQUIREMENTS. Use only form units that are in like new condition and replace panels with defects with new panels. Use screw type fastening and clamping devices to maintain alignment, and to tightly close joints at corners, end forms, and at bulkheads. Apply pressure at joint to resist concrete placing pressure as close to the joint as possible. Vertical and horizontal construction joints shall be at locations approved by the Engineer and before the erection of formwork begins and shall be formed so the joint is straight, in plane and flush with the adjacent surface. Construction joints shall be at a panel joint seam and shall not interrupt the pattern of the formliner. Gaskets shall be installed in formwork corner joints and bulkheads assembled and disassembled in field. Place the gasket within the form joint. Install gasket away from contact edge 1/16 in. to 1/8 in.. Clean all formwork contact surfaces prior to use. Take care in cleaning to not damage the surface. Prior to first use, all urethane liners shall be cleaned per manufacturer's recommendations.

(B) FABRICATION. Design formwork to permit easy removal. Prying against the concrete will not be permitted. Care shall be taken so as not to damage the finished concrete surface in cutting or removal of the forms. The forms shall be completely rigid and strong enough to withstand without deflection or elongation, movement or fluid loss at the high hydraulic pressures that result from the rapid filling and vibration required for architectural concrete placing. Forms shall be fabricated so the concrete can be adequately placed, vibrated and finished to achieve the specified finishes.

(C) Layout form ties, form joints, reveals and exposed embedments as shown on the Drawings.

(1) Ties: Locate ties to fall at centers of individual weaves in the textured concrete. No ties shall fall on weave edge or liner butting seams.

(2) Embedments: Numbers, wayfinding signage, and similar items are to be cast as part of the architectural concrete textured finish as shown on the Contract Drawings. Coordinate as required. Securely and accurately locate and anchor embedment's with correct orientation. Anchor using screw type fasteners to provide compression connection to prevent loss of concrete fluid or movement of embedment. Seal or gasket at interface with urethane formliner.

(D) Smooth surfaces shall be square and flat. Protect all cut edges to avoid swelling. Install joint sealer in all fabricated butt joints of smooth surface panels to prevent fluid loss. At butting plywood panel edges place a bead of sealant 1/8" max at back edge (away from contact face) of one panel prior to butting interface edge surfaces. Take care not to allow sealant to come in contact with form surface.

(E) Prior to use, all form surfaces shall be coated with form release agent. Only manufacturer recommended and NYSDOT approved form release agents shall be utilized. Release agents shall be applied in strict accordance with release agent manufacturer recommendations. Hand-charged sprayers will only be allowed if a thin uniform coating of release agent is obtained on the form.

(F) Wherever forms are to be refurbished and reused adjacent to or in combination with new forms or forms in like-new condition, locate the older forms so that any variation in texture or finish that might appear will be inconspicuous. Locate transition only at corners or other changes of plane.

(G) Transitions between adjacent planes of surfaces shall be without the use of chamfers or radiused forms, unless otherwise specifically shown on the Architectural Drawings.

(H) **Formwork Erection Tolerances:** Fabricate and position formwork surfaces to maintain hardened concrete finish lines within the following allowable variations:

(1) From designed edge elevation in 10 ft: +/- ¼"

(2) From designed vertical plane in 10 ft: +/- ¼"

(3) Cross-sectional dimensions: +/- ¼"

(4) In-place concrete finish surface to new formed finish surface: +/- ¼"

(5) Liner form surface to surface at butt joint: Maximum variation of urethane liner thickness – Fabricate so that liner plywood backing is tight to back-up form system.

(6) It is the intent of this specification that the formwork will be erected in such a manner that lines and surfaces are visually presentable without obvious defects. Where lines and planes require adjusting from one placement to another, adjust the forms to realign in a visually acceptable manner.

(I) **Finishes and Patching:** All exposed work shall be finished with the approved finishes determined from sample tests executed in the mock-ups. Finishes shall be as specified herein where indicated on the drawings. Minor defects may require fins

to be removed (i.e. top edges) or minor patching performed, however, it is the intent of this specification that the work will be performed in such a manner that only the cleaning treatments and sealer/anti-graffiti applications will be required after stripping.

Prior to treating, all surfaces shall receive the following preparation and cleanup: All surfaces to receive treatment shall be a minimum of 21 days old, or as recommended by the manufacturer. All surfaces can be treated at end of project.

(1) Remove all stains using an appropriate non-abrasive stain remover for each type.

(2) Protect all adjacent work during operations. At completion of day's work leave area clean. At completion of work, remove all equipment, waste and excess material and leave area clean.

(3) All treatments shall be applied to the mock-up surfaces as directed by the Engineer. Finish treatments shall be applied to the wall concrete surfaces only when and as directed by the Engineer.

(4) Treat the formed concrete surfaces with cleaning applications as determined from tests on the mock-ups:

a) "Non-acid" Treatment for concrete surfaces: After stripping, the surface shall be treated for stain removal and cleaning when directed by the Engineer.

(5) Sealer treatment for all architectural concrete surfaces: Treat all exposed vertical wall surfaces with NYSDOT approved 717-03 – Penetrating Type Protective Sealer per the manufacturers written instruction.

a) All surfaces receiving treatment shall be dry.

b) All surfaces receiving treatment shall be clean and free of stains and laitance.

c) Any curing agents used to be completely dissipated prior to application of sealer so that sealer will be absorbed into the concrete. Test sealer in small area in inconspicuous location to determine if concrete curing material has sufficiently dissipated for proper application of sealer.

(6) Formed Square Corner Edge Treatment: After concrete is hard use a fine masons stone or fine grit sanding block on the edge to achieve an eased edge with a 1/16-inch radius. Take care not to damage the adjacent surface. This applies to two adjacent vertically formed corner surfaces and to a formed surface adjacent to a trowel finished top surface. This treatment to be done only to edges as directed by the Engineer.

(7) Tie Hole Treatment: Finish holes for approved ties as follows:

a) At cone tie holes, plug the hole with either a field cast plug using same concrete as used in the wall, or by the following method. All tie hole treatments as determined on the mock-up.

b) Fill the hole void with a color matching mortar and tool the hole to recess the mortar surface in the hole, depth as directed by the

Engineer. Take care not to allow mortar to be in contact with the finished wall surfaces.

c) Fill the cone hole by tamping in the mortar to a dense filling and finish with a dowel type tool with limiting collar to the recess required. Smooth the recessed mortar. After finishing remove excess mortar on tape and remove the tape.

d) Where through-the-wall-tie holes occur, plug the holes with backer rod material and leave 2-inch void at end. Fill void with patching mortar as indicated above

(8) Patching: Only areas designated by the Engineer shall be patched. Where minor patching is required, as approved by the Engineer as a means of rendering the surface acceptable, it shall consist of patching with a texture matching technique and color matching mortar mix. Test patches shall be placed on the mock-up or other approved surface and be approved by the Engineer prior to commencing any patching of the work.

Apply all treatments in a manner that conforms to applicable environmental regulations. Provide protective materials, neutralizing materials, and supports to guide any run-off, overspray, or application to a collection point for proper removal. Protect adjacent water and ground surfaces from contamination from any deleterious substances, contaminants, liquids or powders. Render any spills benign; remove from site and dispose of in environmentally friendly manner.

(J) **Protection:** Protect all Architectural Concrete Textured Surfaces from damage of any kind. Pay special attention to surfaces near work of other trades. All surfaces shall be free of damage at time of acceptance. Allowing damage and patching or cleaning at end of project is not acceptable. Locate material staging areas where operations will not damage textured surfaces. Protection shall assure protection from paint, oils, rust, stains, impact, or any other kind.

RHCR 13.08 MEASUREMENT AND PAYMENT:
The quantity of Architectural Concrete Textured Finishes to be paid for under this item shall be the number of SQUARE FEET constructed in accordance with the plans and specifications and as directed by the Engineer.

Payment will be made under

Item No.	Item	Pay Unit
RHCR 13.FLWL	Architectural Concrete Textured Finishes (Floodwalls)	SF

END OF SECTION

SECTION RHCR 50 – FLOODGATES

RHCR 50.01 INTENT

This specification covers the requirements for furnishing all plant, equipment, labor, and materials for fabricating, assembling, delivering, and installing closure gates in accordance with these specifications and applicable drawings.

RHCR 50.02 RELATED DOCUMENTS

(A) Drawings and general provisions of the Contract apply to this Section.

RHCR 50.03 SUMMARY

(A) Section includes Flip-up, Roller floodgates and Hydraulic Power Units as described herein. Furnish all materials, tools, and equipment and perform all operations necessary for installation of the Flip-up Gates, Roller Gates, and Hydraulic Power Units as indicated on the Contract Drawings, as specified herein, and to the satisfaction of the Engineer.

(B) RELATED REQUIREMENTS:

NYC Standard Specification, current edition, **Section 4.06, Concrete in Structures**.

RHCR 50.04 PREINSTALLATION MEETINGS

(A) PREINSTALLATION CONFERENCE: Conduct a meeting at a location selected by the City, or, if approved by the City, virtually. Participants to include Engineer, Contractor, manufacturer, and installer of each type on floodgate and Subcontractor constructing concrete foundations.

RHCR 50.05 ACTION SUBMITTALS

(A) PRODUCT DATA: For each style of flood gate include:

1. Construction details, material descriptions, dimensions of individual components and profiles, and finishes for each type of floodgate.
2. Preparation instructions and recommendations.
3. Storage and handling requirements and recommendations.
4. Installation methods.
5. Manufacturer's product specifications and other data demonstrating that the products meet or exceed all requirements set forth in these Specifications and on the Contract Drawings. Make other items and/or submittals required to indicate conformance with the Contract Documents available for Engineer's inspection.

(B) SHOP DRAWINGS:

1. Submit prior to performing any fabrication.

    a. Include plans, elevations, sections, and perspective drawings as necessary to depict proper placement, installation, and operation methods for each style of flood gate to be installed. Include anchoring, mounting, and attachment details.

        (1). Show metalwork and machine work including catalog cuts, templates, fabrication and assembly details and type, grade, and class of material as appropriate. Identify all temporary and tack welds. Identify each member following the numbering scheme shown on the Contract Drawings. Provide a table containing a list of all members and a reference to each material certificate and test report that applies to that member.

        (2). Identify weld procedures and non-destructive testing (NDT) required for each weld.

        (3). Include any and all splices and cloud for approval.

        (4). Indicate methods of protecting the work during shipping, storage, field assembly, and installation.

2. Submit detail drawings of flood gates and appurtenant items, including fabrication drawings, shop assembly drawings, delivery drawings, and field installation drawings.

3. Detail fabrication and assembly of each style and size of floodgate. Include complete parts list and installation requirements for the specific type of assemblies proposed and distinguish between factory and field assembled work.

    a. Fabrication Drawings: Show complete details of materials, tolerances, connections, and proposed welding sequences which clearly differentiate shop welds and field welds.

    b. Shop Assembly Drawings: Provide details for connecting the adjoining fabricated components in the shop to assure satisfactory field installation.

    c. Delivery Drawings: Provide descriptions of methods of delivering components to the site, including details for supporting fabricated components during shipping to prevent distortion or other damages.

    d. Field Installation Drawings: Provide a detailed description of the field installation procedures. The description must include the location and method of support of installation and handling equipment; provisions to be taken to protect concrete and other work during installation; method of maintaining components in correct alignment including descriptions of connections, riggings, anchorages, and measuring equipment; and methods for installing other appurtenant items.

(1). Include details of equipment assemblies. Indicate dimensions, weights, loads, required clearances, method of field assembly, components, and location and size of each field connection.

(2). Submit details of the control/operation mechanisms and systems, and diagrams for power, signal, and control wiring.

(3). Drawings must be signed and sealed by a Professional Engineer licensed to practice in New York State.

(C). ENGINEERING SERVICES REPORT: Include a detailed engineering report for each type of floodgate demonstrating that the gates will meet or exceed requirements for (1) Flood loading, (2) Traffic loading (if located in roadway), (3) Fatigue Loading, and showing all loads transmitted into connected structures. Report must be signed and sealed by a Professional Engineer licensed to practice in New York State for Engineer of Record to review and approve for conformance with design criteria as outlined in these Contract Documents.

(D). FIELD TEST PLAN: Include proposed methods for field testing by inspection agency. Reproduction of the specifications is not permitted. The plan must include components to be inspected, sequence of inspection, and any equipment or materials required. Provide diagrams or drawings showing proposed test apparatus or set-up. Include calculations, product cut sheets and other information to detail the suitability of test apparatus or equipment for the test purpose.

RHCR 50.06 INFORMATIONAL SUBMITTALS

(A). QUALIFICATION DATA:

1. In accordance with Section 50.09, demonstrate experience and volume of work meets requirements specified. Demonstrate capabilities and experience. Include list of completed projects with project names, addresses, names of architects or engineers and owners.

(B). WELDER CERTIFICATES

2. Prior to welding, submit certification for each welder stating the type of welding and positions qualified for, the code and procedure qualified under, date qualified and the firm and individual undertaking the certification. If the date of certification for the welder or welding operator is greater than 6 months old then accompany the welder or welding operators certificate with a certificate completed by the welder or welding operator attesting to the fact that the welder or welding operator has been engaged in welding since the date of certification, with no break in welding service greater than 6 months. Conform to all requirements specified in AWS D1.5.

(C). WELDING PROCEDURES

3. Submit a complete schedule of welding procedures for each steel structure to be welded prior to commencing fabrication. Provide the schedule in conformance with the requirements specified in the provisions of AWS D1.1 and D1.5. Provide within the schedule detailed procedure specifications and tables or diagrams showing the procedures to be used for each

required joint. Include in the welding procedures filler metal, preheat, interpass temperature and stress-relief heat treatment requirements. Clearly identify each welding procedure as being prequalified or required to be qualified by tests in accordance with AWS D1.5. Show types and locations of welds designated or in the specifications to receive nondestructive testing in the welding procedures

a. Submit filler metal product data. Include the AWS designation of the electrodes to be used in the schedule of welding procedures.

(D). MATERIAL CERTIFICATES: For each component of each style of floodgate.

(E). MATERIAL TEST REPORTS

1. Gasket Material Tests: Tests must include Compression Set, Ozone Resistance, Low Temperature Impact Resistance, Water Absorption, and Heat Resistance.

2. Cladding: Submit test reports verifying the coefficient of friction of the Epoxy Grout Cladding system.

(F). PRODUCT TEST REPORTS: For each style of flood gate for factory operational tests specified in Section 50.20 (C) performed by manufacturer and witnessed by a qualified testing agency.

(G). PRECONSTRUCTION TEST REPORTS: For Mockup Testing specified in **Section RHCR 50.09 (G)**

(H). SOURCE QUALITY-CONTROL REPORTS.

(I). FIELD QUALITY-CONTROL REPORTS.

RHCR 50.07 CLOSEOUT SUBMITTALS

(A). OPERATION AND MAINTENANCE DATA (O&M): For flood gates to include in emergency and normal operation and maintenance manuals. Furnish one (1) hard copy of an O&M Manual including as-built drawings, installation instructions, a full component list, and maintenance instructions.

(B). ORIENTATION: The flood barrier manufacturer(s) must conduct an orientation for NYCDOT and FDNY staff in the correct operation and maintenance of each type of flood gate.

1. Contractor must coordinate with the City for the final required invitee list in advance of scheduling the orientation.

RHCR 50.08 REFERENCES

Use current versions of the following unless noted otherwise:

(A). AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO)

1. LRFD Bridge Design Specifications, 8th Edition, September 2017

(B). AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME)

1. ASME A112.6.3 Floor and Trench Drains
2. ASME B4.1 Preferred Limits and Fits for Cylindrical Parts

(C). AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

1. ASTM A36: Standard Specification for Carbon Structural Steel.
2. ASTM A123: Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
3. ASTM A240: Standard Specification for Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels and for General Applications.
4. ASTM A276: Standard Specification for Stainless Steel Bars and Shapes.
5. ASTM A563: Standard Specification for Carbon and Alloy Steel Nuts
6. ASTM A564: Standard Specification for Hot-Rolled and Cold-Finished Age-Hardening Stainless Steel Bars and Shapes
7. ASTM A572: Standard Specification for High-Strength Low-Alloy Columbium-VanadiumStructural Steel.
8. ASTM A668: Standard Specification for Steel Forgings, Carbon and Alloy, for General Industrial Use
9. ASTM A780: Standard Practice for Repair of Damaged and Uncoated Areas of Hot-DipGalvanized Coatings
10. ASTM A992: Standard Specification for Structural Steel Shapes
11. ASTM A1008: Standard Specification for Steel, Sheet, Cold-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, Required Hardness, Solution Hardened, and Bake Hardenable
12. ASTM A1011: Standard Specification for Steel, Sheet and Strip, Hot-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, and Ultra-High Strength
13. ASTM B26: Standard Specification for Aluminum-Alloy Sand Castings.
14. ASTM B209: Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate.
15. ASTM B241 – Standard Specification for Aluminum and Aluminum-Alloy Seamless Pipe and Seamless Extruded Tube
16. ASTM B308 – Standard Specification for Aluminum-Alloy 6061 T6 Standard Structural Profiles
17. ASTM B429 – Standard Specification for Aluminum-Alloy Extruded Structural Pipe and Tube
18. ASTM C94: Standard Specification for Ready-Mixed Concrete
19. ASTM D395: Standard Test Methods for Rubber Property—Compression Set
20. ASTM D1418: Standard Practice for Rubber and Rubber Latices—Nomenclature
21. ASTM D2000: Standard Classification System for Rubber Products in Automotive Applications

22. ASTM E165: Standard Practice for Liquid Penetrant Testing for General Industry
23. ASTM E709: Standard Guide for Magnetic Particle Testing
24. ASTM F436: Standard Specification for Hardened Steel Washers.
25. ASTM F593: Standard Specification for Stainless Steel Bolts, Hex Cap Screws, and Studs
26. ASTM F3125: Standard Specification for High Strength Structural Bolts and Assemblies, Steel and Alloy Steel, Heat Treated, Inch Dimensions 120 ksi and 150 ksi Minimum Tensile Strength, and Metric Dimensions 830 MPa and 1040 MPa Minimum Tensile Strength

(D). AMERICAN WELDING SOCIETY (AWS)

1. AWS D1.1 – Structural Welding Code: Steel
2. AWS D1.2 – Structural Welding Code: Aluminum
3. AWS D1.3 – Structural Welding Code: Sheet Steel
4. AWS D1.5 – Bridge Welding Code
5. AWS D1.6: Structural Welding Code: Stainless Steel
6. AWS-1-GMAW-S, WPS No. B2.004.90

(E). GERMAN INSTITUTE FOR STANDARDIZATION (DEUTSCHES INSTITUT FÜR NORMUNG) (DIN)

1. DIN 19580 (EN 1433) Class C

(F). INTERNATIONAL ORGANIZATION FOR STANDARDIZATION (ISO)

1. ISO 12944-5: Paints and Varnishes: Corrosion Protection of Steel Structures by Protective Paint Systems: Part 5: Protective Paint Systems

(G). NEW YORK CITY BUILDING CODE (NYCBC)

(H). RESEARCH COUNCIL ON STRUCTURAL CONNECTIONS (RCSC)

1. RCSC S348: Specification for Structural Joints Using ASTM A325 or A490 Bolts

RHCR 50.09 QUALITY ASSURANCE

(A). MANUFACTURER QUALIFICATIONS: The entity manufacturing the gates must be regularly engaged in the design and manufacture of flood gates of the types indicated and must have:

1. Been in business for a minimum of 5 years.
2. Previously executed a minimum total of 10 million dollars' worth of deployable flood gate work to date.
3. Have completed a minimum of 3 sizable projects over $500 thousand dollars each in Contract value in the last 3 years.

(B). INSTALLER QUALIFICATIONS: An entity that employs installers and supervisors who are trained and approved by manufacturer. Manufacturer representative must be on-site during gate installation to provide advisory services.

(C) Retain "Testing Agency Qualifications" Paragraph below if Contractor or manufacturer selects testing agency or if Contractor is required to provide services

of a qualified testing agency in "Field Quality Control" Article. Retain option to require accreditation of testing agency by the ICC-affiliated IAS (www.iasonline.org). Qualification requirements are in addition to those specified in Section 014000 "Quality Requirements," which also defines "NRTL" (nationally recognized testing laboratory).

(D). TESTING AGENCY QUALIFICATIONS: An AWS Accredited Testing Facility qualified for testing indicated. Include the services of AWS-certified welding inspectors for fabrication and erection inspection and testing and verification inspections. Welding inspectors must visually inspect and mark welds, including fillet weld end returns.

(E). MANUFACTURER'S ENGINEER: A Professional Engineer licensed to practice in New York State.

(F). WELDING QUALIFICATIONS: Qualify procedures and personnel according to AWS D1.1 and D1.5, AWS D1.2, AWS D1.3, AWS D1.6. and/or AWS-1-GMAW-S, WPS No. B2.004.90 as applicable to material being welded. All personnel performing nondestructive testing shall be certified Level I or II in the method of NDT being utilized in accordance with AWS D1.1 and D1.5. Level I inspectors must have direct supervision of a Level II inspector. Submit certification for nondestructive testing personnel prior to all testing. In either case, written approval of the examination procedures is required, and performance of the examination tests must be done in the presence of the Engineer. The evaluation of tests is subject to the approval and all records become the property of the City.

(G). SHOP MOCKUPS: Build mockups to demonstrate aesthetic effects, to set quality standards for materials and execution and to set quality standards for fabrication and installation.

1. Build full-size, full-functional mockup of each type of flood gate (i.e. flip up or roller) to be tested per specifications at manufacturer's facility.
2. Further production gates of each type will not be accepted until mockup(s) are tested and inspected and approved by the Engineer.
3. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Engineer specifically approves such deviations in writing.
4. Subject to compliance with requirements, approved mockups may be disassembled, checked, delivered to site, and incorporated into the flood alignment.

(H). PRECONSTRUCTION MOCKUP – FLIP-UP FLOODGATES: The Contractor is hereby informed that in advance of the Work under this Contract, the City engaged under separate Contract a third-party to fabricate and test a full-size mockup of a complete flip-up floodgate system to verify fabrication, installation, and operation. The Contractor is advised to request from the City and review the Contract Documents, report, and test results from that Contract for incorporation of lessons learned into the Work under this Contract.

RHCR 50.10 PRECONSTRUCTION TESTING

(A). PRECONSTRUCTION TESTING SERVICE: Engage a qualified independent testing agency to perform preconstruction testing on shop mockups at manufacturer's facility.

(B). PRECONSTRUCTION TESTING: Performed by a qualified independent testing agency on shop mockup of manufacturer's standard assemblies at manufacturer's facility.

1. Perform Operational, Chalk, Water Hose, and Hydrostatic Tests described in **Section 50.20 (C)** on each type of gate.

RHCR 50.11 DELIVERY, STORAGE, AND HANDLING

(A) Deliver the flood gates to site. Flood gates are to be disassembled and transported to site in sections. Reassemble flood gates onsite.

(B) Verify the condition and quantity of barriers delivered and acknowledge receipt and condition in writing. If delivered items are damaged or there is a shortfall in quantity, inform the Engineer in writing within 24 hours of delivery.

(C) Fit delivered flood gates with suitable lifting points for the safe lifting and positioning of the units. Consider the height constraints posed by overhead utilities that may limit the use or type of lifting equipment on site.

(D) Store products in manufacturer's unopened packaging until ready for installation.

(E) Store and dispose of hazardous materials, and materials contaminated by hazardous materials, in accordance with requirements of local authorities having jurisdiction.

RHCR 50.12 WARRANTY

(A) MANUFACTURER'S WARRANTY: Manufacturer and Installer agree to repair or replace components of Flood Gates that fail(s) in materials or workmanship within specified warranty period.

1. Warranty Period: five (5) years from date of Substantial Completion.

RHCR 50.13 DESIGN AND PERFORMANCE REQUIREMENTS

(A) ENGINEERING SERVICES: Engage a qualified professional Engineer, as defined in **Section 50.20 (C)** to prepare an Engineering Services Report for the Flood Gates showing that the gates, including all components, meet the loading, material and performance requirements set forth in this specification section. Submit calculations stamped by a Registered Professional Engineer in the State of New York for Engineer of Record to review and approve for conformance with design criteria as outlined in these Contract Documents.

(B) LEAKAGE: The flood barrier assemblies must be substantially watertight under the design flood load. Leakage must not exceed 0.25 gallon per minute per linear foot of seal unless otherwise indicated on Contract Drawings.

(C) THERMAL MOVEMENTS: Allow for thermal movements from ambient and surface temperature changes.

1. Temperature Change: 50 deg F (40 def F minimum to 90 deg F maximum).

(D) FLOOD LOADS: The barriers must prevent the passage of floodwater and resist flood forces, including hydrostatic, hydrodynamic and debris impact loading, as indicated on the Contract Drawings, as well as any additional flooding loads specified by the Engineer.

1. Provide calculations for a ‘worst case’ loading condition with each system to show that panel, hydraulic rams, hinges, moving components, and fixings where used operate within their design limits.

(E) DESIGN LIFE WITH SPECIFIED MAINTENANCE:

1. Minimum Service Life:
    a. Flood gates: 60 years.
    b. Coating system: 15 years to first major maintenance.
    c. Gaskets: 25 years and with consideration that the gaskets are fully protected from damage / UV by the barrier panel itself when in the stowed position.
2. Annual operation of the barrier should be undertaken to check all components and operation.
3. The concrete pit should be hosed down annually and after each use to remove any silt/ debris that may otherwise accumulate.
4. Gaskets must be field-replaceable without removal of the barrier. Gaskets to be push-fit into retainers to facilitate removal / replacement.
5. Hydraulic rams and connections are to be field replaceable with the barrier in the raised position.

(F) FLIP-UP FLOOD GATES REQUIREMENTS:

1. Gate Body and Seals
    a. Flip-up Floodgates must consist of a deployable floodgate that stores horizontally in a trough in the ground and rotates to a vertical position to resist flood water and forces. When operated the floodgate is raised into position using hydraulic rams and is supported with struts.
    b. Accomplish long runs with a continuous, segmented closure systems to protect long openings along the streets adjacent to the waterways in the Project that together make up a single fully sealed barrier when deployed.
    c. The gate system must only use corrosion resistant metallic components and EPDM rubber gaskets to resist corrosion and provide maximum durability. Carbon steel components (i.e.: bearings, bushings, fasteners) will not be acceptable.

d. The gate body and seals must operate together to block flooding across long runs without requiring intermediate posts, except where shown, separate sealing locks, or other external supports.

e. The Flip-up Floodgates must provide that each segment seals itself against other contiguous segments when raised into position. Seals must automatically engage, without human intervention, and, other than inflatable gaskets, may not require clamping, bolting, or other secondary methods of engaging the seal, other than simply raising the segment into its operating position.

f. If pneumatic gaskets are used as primary seal provide:

(1). A secondary gasket that operates to the required leakage performance as stated herein

(2). A tertiary flap gasket to ensure that even with the two fitted gaskets not operational the barriers will perform as effective flood defenses in the short term

g. All gaskets must be fully protected and hidden from view when the gate is in the closed, lowered position. The top surface is to include a continuous watertight welded metal barrier coated with non-slip finishes.

h. Complete and full operation of each segment or groups of segments must not require additional supports or other external equipment.

i. The Floodgates must also allow for sealing against external permanent structures such as Hydraulic Power Unit Enclosures (HPU) and concrete pilasters where indicated on the Contract Drawings but must not require any other external permanent structures at any point in the system.

j. Install lifting points for manual deployment. Design the lifting points to support the weight of the gate and any additional loads that may be experienced during deployment, such as water and wind loads. Recess the lifting points in the gate or otherwise obscured from view (i.e. threaded couplers with tamper resistant caps) with tamper resistant covers or access plates. Space lifting points to accommodate the telehandler and telehandler configuration shown on the Contract Drawings.

k. Install conduit for controls / hydraulics / pneumatics underground either within the concrete pit or within conduit to the control panel location.

2. Operational Criteria

a. The gate barriers must be continuously variable between the "open" (deployed) and "closed" position and moveable into position using a powered system during normal operation.

b. The barriers must be deployable before or during a flood situation and must not be impeded by water flowing across them during deployment. The flip-up floodgates must be operable such that they can be lifted into position after a flood event begins. The segments

must be operable in up to three feet of flood water, with waves up to two feet of additional height. Locate control panels a minimum of three feet above adjacent grade and waterproof to the same elevation.

c. Primary Deployment:

1. The Flip-up Floodgates must be operable using one or more powered systems which provide individual control to each segment as well as the capability to automatically control groups of segments, with no additional mechanical operations necessary to fully deploy the barriers during normal operations.

2. Such powered deployment systems are to include pushbutton or deadman key switch controls with line of sight to the barrier itself for causing each segment or groups of segments to raise and lower using hydraulic cylinders.

3. Such powered systems must not interfere with manually raising each segment if such system fails. If decoupling the powered system and the gate is required, a manual means of disconnection the systems must be provided and cannot rely on the powered system for decoupling. Modification or removal of the powered system must not be required prior to manually raising any segment.

d. Secondary Deployment:

1. In addition to a powered deployment system, the barriers must include provision for a portable hydraulic power unit connection including quick disconnects and other equipment necessary to bypass the permanent power system in the event of a failure of the permanent system. The connectors must be readily available and industry standard for similar types of connections.

2. The Contractor shall provide two (2) trailer-mounted portable hydraulic power units with the same performance capabilities as the permanent HPU’s.

e. Manual Deployment

1. The Contractor shall provide two (2) telehandlers and two (2) custom rigging jibs able to be moved into positions indicated in the O&M manual and using rigging, spreader bars and fittings lifted from the closed position. Telehandlers shall serve as an alternate method of manually raising individual segments of the Flip-Up Floodgates as a contingency against failure of any powered system by de-coupling, if required, the hydraulic system and lifting using in-built lifting points. Manual lifting must be able to be accomplished without freeing the segment from existing power systems prior to manually raising such segment. Maximum panel weight information is shown on the Contract Drawings. The

Contractor shall demonstrate that the telehandlers and custom rigging jibs meet all site constraints, including overhead clearance and pick weight / radius capacity.

2. Design Telehandler: Xtreme Manufacturing XR2450-D, or Approved Equal.

f. Seal Operation

1. The sealing system must be automatic once the barrier is raised. Sealing time may not exceed 60 seconds per barrier panel.

2. If using pneumatic seals, design the system to allow connection by mobile compressor as a secondary mode of deployment. Utilizing this method of Operation time to fully inflate the gasket may not exceed 1 minute per barrier.

3. If using pneumatic seals, the seal inflation system must have a manual override, allowing manual inflation of the gaskets in the event of a loss of power. This must be using manual pneumatic foot pump. Utilizing this method of operation time to fully inflate the gasket in 3 minutes or less per barrier.

g. When in the raised position the hydraulic rams must prevent the gate closing back down. In addition to this, manually installed struts or other support must be field-placeable or automatically engaged to fix the barrier in the vertical position should impact/ loading occur from the dry side. The additional strut must be independent of the hydraulic ram.

3. Stowage and Site Criteria

a. When the barriers are in in the closed (stowed) position, pedestrian and vehicular traffic must be able to readily flow across the gate surface, with no blockage of the travel path. The barriers must allow safe, unimpeded passage of vehicles, heavy trucks, bicycles, and human traffic while in the dry or "closed" position. Steps or raised plates that may cause a trip hazard or be at risk of damage from snowplows or other equipment are not permitted. The surface must comply with ADA requirements.

1. While the barriers are in the “closed” position, they must remain flush with the adjacent gate foundation until actively deployed. The barriers shall not be allowed to passively raise due to buoyant floating or other non-deployment forces. Any locking or hold-down mechanism used to maintain the barrier in the “closed” position shall be approved for use by City personnel, including any tools or components necessary to operate the mechanism.

b. While the barriers are in the “closed” position, they must sustain traffic loads corresponding to AASHTO HS-25, ASME A112.6.3-2019 Heavy Duty Class, DIN 19580 (EN 1433) Class C, NYC Fire Code 2022 for “access roads” and/or pedestrian load of 100psf, whichever provides the worst effect. The static effect of the traffic is

increased by 15% to check the barrier's fatigue limit state and 33% to check the strength limit state. These factors are applied to the static wheel load to account for impact from moving vehicles.

c. The top surface is to consist of one of the following finishes as identified on the Contract Drawings. The top surface, including gaps between the gate and the frame, must meet ADA requirements and be conducive to bikes and pedestrian traffic with a maximum gap of ½" and minimum coefficients of 0.6 and 0.8 in the wet and dry conditions, respectively.

1. Aluminum Tread Plate
2. Epoxy Grout

d. The installation "set-down" below surface grade: as indicated on the Contract Drawings.

e. The gate trough must be sloped so that rainwater / floodwater entering the concrete pit will drain freely to the 'wet' side of the barrier to the drain points.

f. Elevate the flood barrier framing and components off the base of the concrete pit by sitting on grouted baseplates to allow rapid flushing of the bases post-flood with no ponding or trapped water.

g. The hydraulic lifting mechanism must be powered using a hydraulic power unit (HPU) located within the enclosures shown on the Contract Drawings

h. Provide Incidental Parts as follows

I. One (1) Hydraulic Cylinder
II. Hydraulic Flexible Hoses: 10 Sets of connections
III. Hydraulic Flexible Hoses: Pair of longest length hoses (200 ft)
IV. Two (2) Chains/Tension Members
V. Ten (10) Blanking bolts to lifting points
VI. One (1) Set of lifting attachments
VII. Two (2) Removable struts
VIII. One (1) Full set of gaskets (for most common gate size: 60 ft total)
IX. Two (2) Solenoid/control modules

(G) ROLLER FLOODGATES

1. Gate Body and Seals

a. Provide Roller Floodgate consisting of a deployable floodgate that stores alongside the floodwall adjacent to the opening to be protected. When operated the floodgate is winched horizontally to the closed position compressing vertical gaskets.

b. Provide base gasket that can be adjusted along the length of the gate to compensate for unevenness of the sealing surface and

adjustment of the gasket during gate installation. The base gasket must not drag or slide during deployment of the gate and must not be in contact with the ground when the gate is stowed.

c. Connect the gate to the walls on either side of the opening at the top and bottom to hold the gate vertical in the correct location/alignment and provide support under load.

d. The gates must have wheels, positioned to support the gate during deployment from lateral forces due to 39 mph one-minute wind speed, that are compatible with the Manufacturer's ground beam wheel guides shown schematically on the Contract Drawings. External struts, braces and arms are acceptable on the dry side of the gate if stored within the footprint of the gate body; however, they are not permitted on the flood side of the gate.

e. Provide a manual hydraulic pump operated by either cordless drill/ driver or manual hand crank to raise and lower the wheels or gasket. Connect the moveable equipment to a linkage that is operated by hydraulic pump housed within the gate body. The pump must be accessible from the flood side of the gate.

f. Provide lockable panels on the flood side of the gate to protect the hydraulic pump / cylinder / wheel assemblies.

g. Provide a lockable cover to protect the gasket from tampering on the leading edge of the gate when stored.

2. Operational Criteria

a. Primary Deployment Method: The system must be operable by one operator with line-of sight to the floodgate. Provide an electric winch capable of deploying the gate in 10 minutes per floodgate from the wet side of the floodgate. Mount the winch at ground level onto connection points in the ground beam shown on the Contract Drawings (one at either end for closing and opening). Provide a remote trigger to operate the gate held by the operator local to the gate.

b. Alternate Deployment Methods: Using winching points and pulley block attachment to a suitable sized vehicle (by others) or, manually winching the floodgate open/ shut using come-alongs or similar method. Maximum deployment time for two workers to be 15 minutes per floodgate.

c. When the gate is in the closed position the wheels are retracted into the body of the gate to lower the gate body onto the EPDM base gasket held in a retainer, forming the horizontal seal along the base of the gate.

d. When the gate is pulled fully closed vertical gaskets on the sides of the gate compress against matching vertical faces fixed to the concrete floodwall.

3. Storage and Site Criteria

a. The floodgate must not run in a trough that can fill with silt/ debris / ice.

b. The grade beam must be level. Raised plates or pieces which may form trip hazards or obstructions to snowplows are not allowed. The plate must be coated with a non-skid coating.

4. Provide incidental parts as follows:

a. One (1) Full set of gaskets (for longest gate: 70 ft total)

b. One (1) Winch

c. One (1) Pair of wheels and bearings

(H). HYDRAULIC POWER UNIT ENCLOSURE

1. Furnish and install a stainless steel enclosure fit the hydraulic power unit.

2. The stainless steel enclosure shall be IP68 rated by the manufacturer in accordance with the latest International Electrotechnical Commission guidance and rated for submersion to depths of 10’ for 24 hour or greater as certified by the manufacturer.

3. Procure the stainless steel enclosure with the minimum clear space required by the hydraulic power unit manufacturer between the hydraulic power unit components and the inner walls of the enclosure, not to be less than 3 inches.

4. Contractor to modify the stainless steel enclosure to provide ventilation meeting the requirements of the hydraulic power unit manufacturer into the top of the enclosure above the design flood elevation for 14 feet NAVD88. The ventilation shall have bends as required to open horizontally to minimize the ingress of precipitation. The vent opening shall have a louver rated for wind driven drive per AMCA 500-L.

RHCR 50.14 MATERIALS

(A). All materials, alloys, and grades noted in this Article are representative – final selection to be made by the manufacturer and must be acceptable for flood loading as per appropriate engineering standards and requirements herein, and noted on the approved, stamped drawings, and approved by the Engineer.

(B). CONCRETE FOUNDATIONS: ASTM C94 concrete meeting the requirements of **Section 4.06 Concrete in Structures**; compressive strength as specified therein or indicated on the Contract Drawings.

(C). ALUMINUM

1. Castings: ASTM B26 alloy 6063

2. Plate and sheet material: ASTM B209

b. Alloy 5052-H32 min Fy= 25 KSI.

c. Alloy 6061 min Fy=35 KSI.

3. Flat bars, structural angles, AISI 6061-T6 min Fy = 35 ksi.

4. Rolled or Extruded Bars, Rods, Shapes, and Tubes: ASTM B221 or ASTM B308.

5. Extruded Structural Pipe and Tube: ASTM B221, ASTM B241, or ASTM B429.

6. Hinge blocks: Alloy 6061-T6 min Fy =35 ksi.

7. Gasket Flanges: Alloy 6061-T6, Minimum Yield (Fy): 35 ksi.

(D). STRUCTURAL STEEL

1. Shapes: ASTM A572, Grade 50 or ASTM A992.

2. Plates: ASTM A36 or commercial Quality Low Carbon ASTM A1008 or ASTM A1011.

3. Tubing: ASTM A 500 Grade B.

(E). STAINLESS STEEL PLATE, SHEET, STRIP, PLATE, BAR AND SHAPE

1. Stainless Steel Plate, Sheet and Strip: ASTM A240 Type 316L.

   a. Plate finish: hot rolled, annealed or heat treated and blasted clean or pickled.

   b. Sheet and strip finish: Number 1.

2. Stainless Steel Bar and Shape: ASTM A564 Type 630 Condition H100 and ASTM A276

(F). GASKETS:

1. Comply with the following

   a. Manufacturers: Subject to compliance with requirements and required to be manufactured by::

      Seals Unlimited
      6410 NE Jacobson Street
      Hillsboro, OR 97124
      800.423.6644
      sales@sealsunlimited.com

   b. No Substitutions Permitted.

2. Physical Characteristics of Gaskets must be as follows:

Test	**Test Value**	**Test Method**
Shore 'A' Durometer Hardness, Range	60-70	ASTM 2240
Minimum Ultimate Tensile Strength	3000 PSI	ASTM 413, Method A
Minimum Elongation at Break	45%	ASTM 412
300% Modulus	900 PSI	ASTM 412
Min, Tensile Strength, After Accelerated Aging (48 hours in Oxygen @ 70 deg. C.)	80%	ASTM D572, D573
Maximum Compression Set % of Original Deflection	30%	ASTM D395, Method B

Water Absorption (Maximum Change in Weight)	5%	ASTM D471
Low Temperature Brittleness	Non-Brittle 3min. at -40 deg C.	ASTM D2137, Method A

(G). WINCH

1. Manufacturers: Subject to compliance with requirements, required to be series G2, and required to be manufactured by:":

   Warn Industries, Inc
   12900 SE Capps Road
   Clackamas, Oregon 97015
   833.727.8784
   Warn-support@partvia.com

2. No Substitutions Permitted.

(F) HARDWARE:

1. Hinges: ASTM F593 Grade 316 Stainless Steel with bronze oil-impregnated bushings. Hinges must not require external lubrication for operation.
2. Latches: stainless steel sliding latch bolts.
3. Dogs: stainless steel or bronze dogs as appropriate depending on loads.
4. Bolts, Nuts and Washers
   a. High Strength Bolts: ASTM F3125, Grade A325, Type 1 Hot dip galvanized or Grade A490 Type 1. Bolts ½-inch or larger must have heavy hex heads. The finished shank of the bolt must have enough length to provide full bearing.
      (1). Washers for use with bolts must conform to the performance specified in the relevant code for bolts.
      (2). Hardened steel flat and beveled washers: ASTM F436, type to match bolt type and finish
      (3). Nuts: ASTM A563, type to match bolt type and finish.
   b. Stainless Steel: ASTM F593 Grade 316.
5. Fasteners to Foundations: Load-rated Hilti Fixings or approved equal suitable for the base materials.
6. Anchor Bolts: ASTM F1554 Gr. 55 or 105 Hot Dip Galvanized, or Stainless Steel: ASTM F593 Grade 316.
7. Shackles and Turnbuckles: ASTM A668 forged steel, zinc coated or Stainless Steel: ASTM A182 Grade 316.
8. Wire Ropes: FS RR-W-410 or Stainless Steel: ASTM A492 Grade 316
9. Padlocks and Hasps
   a. Padlocks: CID A-A-59486C, Type II, keyed alike with two keys.

b. Hasps: Wrought steel and sized to accommodate padlocks.

(H). Galvanically isolate all other stainless-steel components from aluminum components.

(I). WELDING WIRE: Aluminum Wire: ER 4043 AWS A5.10 3/32.

RHCR 50.15 FLOOD GATES

(A). FLIP-UP FLOOD GATES

1. Manufacturers: Subject to compliance with requirements and required to be manufactured by:

a. Floodbreak
5909 West Loop South, Suite 200,
Bellaire TX 77401
Tel: (713) 980-6610
Fax: (713) 629-9936
info@floodbreak.com
www.floodbreak.com

b. No Substitutions Permitted.

(B) ROLLER GATES

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following for each type of gate listed below or an equal as approved by the Engineer:

a. Flood Control International
7 Elk Street, Lower Level
New York, NY10007
(212) 903-4554
enquiries@floodcontrolint.com
http://www.Floodcontrolinternational.com

b. Floodbreak
5909 West Loop South, Suite 200,
Bellaire TX 77401
Tel: (713) 980-6610
Fax: (713) 629-9936
info@floodbreak.com
www.floodbreak.com

c. Walz & Krenzer
91 Willenbrock Rd Suite B4
Oxford, CT 06478
(203) 267-5712
sales@wkdoors.com
http://www.stopfloods.com

d. PS Industries
1150 S. 48th Street

Grand Forks, ND 58201
(701) 746-4519
tsmith@psindustries.com
http://www.psindustries.com/

(B). COLOR: Color per Contract Drawings.

RHCR 50.16 MOTORS

(A). FLOODGATES MUST BE POWERED USING A HYDRAULIC POWER UNIT (HPU).

RHCR 50.17 CONTROLS AND SAFETIES

(A) PROVIDE A FUNCTIONAL MOCKUP OF A CONTROL PANEL INCLUDING THE FOLLOWING CONTROLS:

1. Raise and lower the gates.
2. Emergency stop.
3. If applicable, manual deployment decoupling release.

(B). PUSH BUTTON:

1. Weatherproof
2. LED Lit

RHCR 50.18 FIELD MEASUREMENTS / SEQUENCING AND SCHEDULING

(A). Verify openings and adjacent construction by field measurements before fabrication and indicate measurements on Shop Drawings.

(B). Coordinate fabrication schedule with construction progress to avoid delaying the Work.

(C). Coordinate Setting Drawings, diagrams, templates, instructions, and directions for installation of anchorages that are to be embedded in concrete or masonry construction. Coordinate delivery of such items to Project site.

RHCR 50.19 GENERAL FINISH REQUIREMENTS

(A). GENERAL

1. The manufacturer must provide access to the Engineer to shop facilities for inspection of materials, testing, and workmanship.
2. The finished product must be rigid, neat in appearance, and free from all defects, warps, and buckles. All exposed joints and corners must be well rounded.
3. Make splices only where shown on shop drawings. Bore pin holes in components after welding, straightening, stress-relieving, and threading operations are completed. Straighten brackets, eye bar sections, and other components requiring straightening by methods which will not damage the

material. Press fit bronze bushings with supporting components. Make bolt connections, lugs, clips, or other pick-up assembly devices as required for proper assembly and installation.

4. Material must be straight before being laid off or worked. Perform straightening, if necessary, by methods that will not impair the metal. Sharp kinks or bends are cause for rejection of the material. Material with welds will not be accepted except where welding is specified, indicated, or otherwise approved. Make bends using approved dies, press brakes or bending rolls. Where heating is required, take precautions to avoid overheating the metal and allow it to cool in a manner that will not impair the original properties of the metal. Proposed flame cutting of material is subject to approval and must be indicated on the shop drawings. Shearing must be accurate, and all portions of the work neatly finished. Make comers square and true unless otherwise shown. Fillet re-entrant cuts to a minimum radius of 3/4 inch unless otherwise approved. Provide finished members free of twists, bends, and open joints. Tighten bolts, nuts, and screws.

(B) WELDING – GENERAL

1. Tack Welds: Tack welds that are to be incorporated into the permanent work are to exhibit the same quality requirements as the permanent welds; clean and thoroughly fuse them with permanent welds. Perform preheating as specified above for temporary welds. Provide cascaded ends on multiple-pass tack welds. Remove defective tack welds before permanent welding.

2. Weld Access Holes (corner copes to prevent intersecting welds): Provide as shown on the shop drawings. If intersecting out-of-plane welds are encountered, notify the Engineer for the approval of additional weld access hole additions in such locations. Cost for the addition of weld access holes not shown on plans will be the Contractor's responsibility. Unless shown on the drawings, welds will be required to wrap the ends of weld access holes.

3. Weld Backing Removal: Unless otherwise indicated, remove all weld backing material from welded joints prior to testing. Identify all weld backing material that cannot be removed on the shop drawings.

(C). WELDING – STRUCTURAL STEEL: AWS D1.1 and D1.5, and of the type shown and approved detail shop drawings. Stress-relieve components as required to prevent stress corrosion cracking and to relieve residual stresses by heat treating after welding. Preform stress-relieving of components prior to the attachment of miscellaneous appurtenances.

1. Procedures: Use prequalified welding procedures for structural steel as described in AWS D1.1 and D1.5, Prequalification of Welding Procedure Specification (WPS) Clause or qualify by tests as prescribed in AWS D1.1 and D1.5, Qualification Clause. For welding procedures qualified by tests, the coupon welding and specimen testing must be witnessed, and the test report document signed by the Engineer. Approval of any welding procedure does not relieve the Contractor of the responsibility for producing a finished structure meeting all requirements of these specifications. The Contractor will be directed or authorized to make any changes in previously

approved welding procedures that are deemed necessary or desirable by the Engineer.

2. Welding Process: Perform welding of structural steel by an electric arc welding process using a method which conforms to the applicable provisions of AWS D1.1 and D1.5. Minimize residual stresses and shrinkage from welding.

3. Filler Metal: Provide the electrode, electrode-flux combination, and grade of filler metal conforming to the appropriate AWS specification for the base metal and welding process being used or be as shown where a specific choice of AWS specification allowable is required. Use only low hydrogen electrodes for manual shielded metal-arcwelding regardless of the thickness of the steel. Use a controlled temperature storage oven at the job site as prescribed by AWS D1.1 and D1.5, Fabrication Clause No 5 to maintain low moisture of low hydrogen electrodes.

4. Preheat and Interpass Temperature: Perform preheating as required by AWS D1.1 and D1.5, Fabrication Clause or as otherwise specified except that the temperature of the base metal must be at least 70°F. Slowly and uniformly preheat the joint area by approved means to the prescribed temperature, held at that temperature until the welding is completed and then permitted to cool slowly in still air.

5. Stress-Relief Heat Treatment: Where stress relief heat treatment is required, perform in accordance with the requirements of AWS D1.1 and D1.5, Fabrication Clause unless otherwise authorized or directed.

6. Workmanship: Perform welding workmanship in accordance with AWS D1.1 and D1.5, Fabrication, Clause and other applicable requirements of these specifications.

7. Preparation of Base Metal: Prior to welding inspect surfaces to be welded to ensure compliance with AWS D1.1 and D1.5, Fabrication Clause.

8. Temporary Welds: Make temporary welds, required for fabrication and erection, under the controlled conditions prescribed for permanent work. Make temporary welds using low-hydrogen welding electrodes and by welders qualified for permanent work as specified in these specifications. Conduct preheating for temporary welds as required by AWS D1.1 and D1.5 for permanent welds except that the minimum temperature must be 120°F in any case. In making temporary welds, do not strike arcs in other than weld locations. Remove each temporary weld and grind flush with adjacent surfaces after serving its purpose.

9. Weld Backing Material Other Than Steel: Qualified by testing and included in submitted PQR/WPS. Variation from approved weld backing material will not be permitted and will require the development and testing a new weld procedure which addresses the change in backing material.

10. Welding of Threaded Steel Studs: AWS D1.1 and D1.5, Stud Welding Clause, except as otherwise specified for the procedures for welding steel studs to structural steel, including mechanical, workmanship, technique, stud application qualification, production quality control and fabrication and verification inspection procedures.

11. Application Qualification for Threaded Steel Studs: As a condition of approval of the stud application process submit certified test reports and certification that the studs conform to the requirements of AWS D1.1 and D1.5, Stud Welding Clause, certified results of the stud manufacturer's stud base qualification test, and certified results of the stud application qualification test as required by AWS D1.1 and D1.5, Stud Welding Clause, prior to commencing fabrication, except as otherwise specified.

12. Production Control: AWS D1.1 and D1.5, Stud Welding Clause, except as otherwise specified for quality control for production welding of studs. Weld studs on which pre-production testing is to be performed must be in the same general position as required on production studs (flat, vertical, overhead, or sloping). If the reduction of the length of studs becomes less than normal as they are welded, stop welding immediately and do not resume until the cause has been corrected.

13. Weldments: Portions of the structure include thick weldments where locked in thermal stresses may make final dimensions unstable. The Contractor is required to sequence the work and thermally stress relieve subassemblies of thick weldments such that final machining achieves stable specified dimensions and tolerances.

14. Seal Welds: Seal welds are required to maintain water tightness of weld joints and to prevent corrosion. All welds to be seal welds unless noted otherwise. Show all seal welds and make as indicated on the shop drawings. Make seal welds, without a specific size shown, the minimum size fillet weld as required in AWS D1.1 and D1.5. In addition, seal welds may require weld wrapping around reentrant corners that is specifically prohibited in AWS D1.1 and D1.5.

(D). WELDING – ALUMINUM:

1. Perform welding of aluminum in accordance with AWS D1.2.

2. Preparation:

   a. Protect all adjacent surfaces prior to commencement of welding work, in conformance with NFPA 51B.

   b. Prepare all surfaces to be welded in conformance with AWS D1.2.

      (1). Remove dirt, grease, forming or machining lubricants, and organic materials from areas to be welded by cleaning with a suitable solvent or by vapor degreasing.

      (2). Additionally, etch or scratch brush to remove oxide coating just prior to welding when inert gas tungsten arc welding method is used.

      (3). Oxide coating need not be removed if welding is performed by automatic or semi-automatic inert gas shielded metal arc.

      (4). Suitably prepare edges to assure 100 percent penetration in butt welds by sawing, chipping, machining, or shearing. Do not cut with oxygen.

3. Welding Equipment: Provide all welding equipment, electrodes, welding wire, fluxes, preparatory tools and equipment, and any other accessories required to perform the work.

4. Heat Input Requirements

   a. Preheat: Do not weld at an ambient temperature below 32°F, or when the surfaces are wet or exposed to rain, snow, or wind exceeding 5 mph. Verify that the minimum temperature of the metals in the area of welding is 50°F. Preheat the area surrounding the joint to provide a base metal temperature of 100°F for a distance of at least 3-inch in all directions from the joint to be welded in accordance with AWS D1.2.

   b. Interpass: In a multipass weld, ensure the interpass temperature is the temperature of the weld metal before the next pass is started.

   c. Postweld: Postweld heat treatment of weldments is prohibited unless noted in the applicable Code qualified/certified welding documentation, Certified Welding Procedure Specifications (WPS).

5. Filler Metal: Aluminum alloys conforming to the requirements of AWS A5.10 and AWS classification ER 4043.

6. Perform welding by using a non-consumable tungsten electrode with filler metal in an inert gas atmosphere (GTAW) or using a consumable filler metal electrode in an inert gas atmosphere (GMAW).

7. Do not use welding process that requires use of a welding flux.

8. Neatly make welded closures.

9. Where weld material interferes with fit or is unsightly in appearance, grind it smooth.

10. Use complete penetration groove weld joints only unless otherwise indicated on approved Shop Drawings.

11. Acceptance Criteria: Level I examination, requiring weldments in accordance with AWS D1.2/D1.2M.

(E). WELDING – STAINLESS STEEL

1. Perform welding of stainless steel in accordance with AWS D1.6

(F). BOLTED CONNECTIONS: Equip all bolts with washers under the turned element. Use beveled washers where bearing faces have a slope of more than 1:20 with respect to a plane normal to the bolt axis. Where the use of high strength bolts is specified or indicated, conform the materials, work and installation to the applicable provisions of ASTM F3125. Install high strength ASTM F3125 Grade A325 or Grade A490 bolts in accordance with the requirements of RCSC S348. Pretension all high strength bolted connections to the minimum pretension as specified in RCSC S348. Follow the pre-installation verification procedures outlined in RCSC S348. Make all other bolted connections snug tight in accordance with RCSC S348.

1. Accurately locate bolt holes, smooth, perpendicular to the member and cylindrical.

2. Match-ream or drill holes for bolts with LN2 fit in the shop. Remove burrs resulting from reaming. Keep bolt threads entirely outside of the holes. The body diameter of bolts must have tolerances as recommended by ASME B4.1 for the class of fit specified. Place fitted bolts in reamed holes by selective assembly to provide an LN2 fit.

3. Make holes for high strength bolts not more than 1/16 inch larger than bolt diameters. If the thickness of the material is not greater than the diameter of the bolts, the holes may be punched. If the thickness of the material is greater than the diameter of the bolts the holes may be drilled full size or subpunched or subdrilled at least 1/8 inch smaller than the diameter of the bolts and then reamed to full size. Poor matching of holes will be cause for rejection. Drifting occurring during assembly cannot distort the metal or enlarge the holes. Reaming to a larger diameter of the next standard size bolt will be allowed for slight mismatching.

4. Machine Work: Tolerances, allowances, and gauges for metal fits between plain, non-threaded, cylindrical parts conform to ASME B4.1 for the class of fit shown or required unless otherwise shown on approved detail drawings. Tolerances for machine-finished surfaces designated by non-decimal dimensions must be within 1/64 inch. Sufficient machining stock must be provided on placing pads to ensure true surfaces of solid material. Provide finished contact or bearing surfaces true and exact to secure full contact. Polish journal surfaces and finish all surfaces with sufficient smoothness and accuracy to ensure proper operation when assembled. Accurately machine parts entering any machine and all like parts be interchangeable except that parts assembled together for drilling or reaming of holes or machining will not be required to be interchangeable with like parts. Accurately locate all bolt holes.

    a. Unfinished Surfaces: Lay out all work to secure proper matching of adjoining unfinished surfaces unless otherwise directed. Where there is a large discrepancy between adjoining unfinished surfaces chip and grind smooth or machine to secure proper alignment. Unfinished surfaces must be true to the lines and dimensions shown and be chipped or ground free of all projections and rough spots. Fill in depressions or holes not affecting the strength or usefulness of the parts in an approved manner.

    b. Pin Holes: Bore true to gauges, smooth, straight and at right angles to the axis of the member. Do the boring after the member is securely fastened in position.

    c. Shafting: Turn or grind shafting with hot-rolled or cold-rolled steel, as required, unless otherwise specified or authorized. Provide fillets where changes in section occur. Cold-finished shafting may be used where keyseating is the only machine work required.

    d. Bearings: Bearings may be lined with bronze unless otherwise specified or shown. Where the bearing pressure is in excess of 200 psi, line bearings with bronze. Anti-friction bearings of approved types and of sizes not less than those recommended by the bearing manufacturer for the duty intended will be permitted subject to

approval. Properly align all bearings provided with a suitable means of lubrication. Install anti-friction bearings as required to provide for retention of the lubricant and to exclude dirt and grit.

(G). MISCELLANEOUS PROVISIONS:

1. Apply zinc coatings in a manner and of a thickness and quality conforming to ASTM A123. Where zinc coatings are destroyed by cutting, welding or other causes re-galvanizethe affected areas. Re-galvanize coatings 2 ounces or heavier with a suitable low-melting zinc base alloy similar to the recommendations of the American Hot-Dip Galvanizers Association to the thickness and quality specified for the original zinc coating. Repair coatings less than 2 ounces with cold galvanizing in accordance with ASTM A780.

2. Drain holes: Locate where required. Size and number of holes is subject to approval of Engineer. Holes must provide a continuous path for drainage of water to the foundation pan and must prevent pooling of water on or within gate body. Drill drain holes; flame cutting will not be permitted.

3. Fabrications

   a. Gates: Welded fabrication, complete with hinge assemblies, pintle assembly, wheel assemblies, gate hooks, seal assemblies, etc. and other appurtenant components as specified and shown. The overall height of gates must not vary from the nominal dimension by more than 1/4 inch. The surfaces of framing elements to skin plates are to be welded must not vary from a true plane by more than 1/4 inch. The diagonal dimensions across the comers of both faces of the gate leaf may not differ from the calculated dimensions based on gate dimensions shown on the drawings by more than 1/2 inch. Locate splices in skin plates only where shown. In addition to welds specifically indicated on shop drawings for nondestructive testing, other welds as chosen by the Engineer in the girders, verticals and skin plate of the gate leaf are to receive nondestructive testing at the Contractor’s expense following the guidelines specified in the New York State Steel Construction Manual 4th Ed. Frequency of testing is specified in Section 2.09.

   b. Hinge Assembly: In addition to welds specified for nondestructive testing, test 50 percent of the welds in the hinge assembly and the welds connecting the hinge assembly to the gate framing utilizing Ultrasonic Testing. After all welding is completed, stress relieve the hinge assembly by heat-treating. Perform stress-relieving prior to machining.

   c. Roller Gate Wheel or Base Gasket Assembly: Provide roller gate wheel assembly complete with wheels as specified herein and fittings, couplings, and hoses for lubrication of wheels.

      (1). Fittings: ¼-inch threaded-pipe fitting.

      (2). Couplings: ¼-inch stainless steel half coupling.

      (3). Hoses: ¼-inch inside diameter, double-braided stainless-steel flexible hoses. Couplings and hoses must have a pressure rating as required by manufacturer.

d. Seal Assembly: Provide continuous gaskets over the full length. Fit and drill for proper installation. Drill bolt holes in the gaskets by using prepared templates or the retainer bars as templates. Splices in seals must be fully molded, develop a minimum tensile strength of 50 percent of the unspliced seal, and occur only at locations shown. Vulcanize all splices in the shop. Locate the vulcanized splices between molded corners and straight lengths as close to the corners as practicable. Make splices on a 45-degree bevel related to the "thickness" of the seal. Make finished splice surface smooth and free of irregularities. Locations of field splice of retainer bars must be shown on the Shop Drawings. Grind flush field welds of the retainer bar.

e. Miscellaneous Embedded Metals: Wall armor, shear anchors, protection and seal plates and shapes, and other miscellaneous embedded metals must be of metal as noted conforming with the details specified herein and shown.

(H). SHOP ASSEMBLY:

1. General Requirements:

a. Completely assemble gates and appurtenant items in the shop, unless otherwise approved, to assure satisfactory field installation. Fit adjoining components and bolt together to facilitate field connections. Carefully preserve the matchmarking of unassembled items until the items are assembled. Cover corrodible mating surfaces and machined surfaces with a rust preventive until assembly. Shop weld assembled components in their final positions as much as delivery and field installation conditions permit. Fit gaskets and drill to match the seal retainers; match-mark and remove for shipment. Perform shop assembly and disassembly work in the presence of the Engineer unless waived in writing. The presence of the Engineer will not relieve the Contractor of any responsibility under this Contract.

b. Fabricate all components and elements following the standards, tolerances and guidelines noted on the Contract Drawings.

c. Welds: All structural weld details are to be as indicated on the shop drawings as necessary for full structural integrity to design flood loads. All butt welds in frame are to be full penetration welds

d. Perform all welding using certified welders in accordance with AWS standards and guidelines.

e. Tighten all bolts to torque specifications determined by the manufacturer and Engineer.

(I). TROUGH: Fabricate pan or form concrete to include a drainage trough or sump running parallel to and for the entire length of the gate at appropriate location and size for drainage of casual water from non-flood weather events.

(J). TOLERANCES:

1. Dimensional Tolerances for Structural Work: Measure dimensions using an approved calibrated steel tape the same temperature as the material being measured. The overall dimensions of an assembled structural unit must be within the tolerances indicated on the drawings or as specified in the particular section of these specifications for the item of work. Where tolerances are not specified elsewhere or required to meet other provisions of these specifications allowable variation is as follows:
    a. 1/32 inch in the overall length of component members with both ends milled;
    b. Component members without milled ends must not deviate from the dimensions shown by more than 1/16 inch for members 30 feet or less in length, and by more than 1/8 inch for members over 30 feet in length,
    c. Panels and frame: within 1/8 inch in any 6-foot length.
2. Fabrication: Metals may be cut by mechanically guided or hand-guided torches when approved by the Engineer, provided an accurate profile with a surface that is smooth and free from cracks and notches is obtained. Prepare surfaces and edges in accordance with AWS D1.1, D1.2, D1.5or D1.6 as applicable.

RHCR 50.20 SOURCE QUALITY CONTROL

(A) TESTING AGENCY: Contractor shall engage a qualified testing agency to evaluate fabricator's quality-control, testing methods, and testing results.

(B) MATERIAL AND WELDING TESTS, INSPECTIONS, AND VERIFICATIONS

1. Submit certified, independent test reports, for each type of flood gate (i.e. flip up or roller) for material tests with all materials delivered to the site.
2. The Testing Agency will:
    a. Perform material tests and analyses to demonstrate that materials are in conformity with the specifications.
    b. Conduct tests in the presence of the Engineer if so required.
    c. Furnish specimens and samples for additional independent tests and analyses upon request by the Engineer.
    d. Properly label specimens and samples and prepare for shipment.
    e. Submit certified test reports for material tests as well as manufacturers’ material test reports with all materials delivered to the site.
3. Nondestructive Testing: When doubt exists as to the soundness of any material part, such part may be subjected to any form of nondestructive testing determined by the Engineer. This may include Ultrasonic (UT), Magnetic Particle Testing (MT), Radiographic Testing (RT) or any other test that will thoroughly investigate the part in question. The cost of such investigation will be borne by the City if the part is found to be sound and back charged to the Contractor if the part is found to be defective. Any

defects will be cause for rejection; replace and retest rejected parts at the Contractor's expense.

4. Tests of Machinery and Structural Units: The details for tests of machinery and structural units must conform to the requirements of the particular sections of these specifications covering these items. Assemble each complete machinery and structural unit and test them in the shop, in the presence of the Engineer, unless otherwise directed. The Engineer's waiving of tests does not relieve the Contractor of responsibility for any fault in operation, workmanship or material that occurs before the completion of the Contract or guarantee. After being installed at the site, operate each complete machinery or structural unit through a sufficient number of complete cycles to demonstrate to the satisfaction of the Engineer that it meets the specified operational requirements in all respects.

5. Welding Inspections: Nondestructive testing of designated welds will be required. Supplemental examination of any joint or coupon cut from any location in any joint may also be required. Selection of welds to be tested will be as agreed upon between the Engineer and Contractor. The Testing Agency must be present whenever welding is performed. The Testing Agency must perform inspection, as necessary, prior to assembly, during assembly, during welding, and after welding. The Testing Agency must perform inspection as required in AWS D1.1, D1.2, D1.5and D1.6 as applicable and the following:

    a. Visual Examination: Document this inspection in the Visual Weld Inspection Log.

    b. Nondestructive Testing: Perform as designated or described in the sections of these specifications, the nondestructive testing of shop and field welds covering the particular items of work. Record final nondestructive testing results in the Weld Inspection Log which identifies final NDT inspection of all welds requiring inspection and submit the log.

    c. Radiographic Testing (RT): Radiographic examination is required on the major shop and field welds as per AWS D1.5. See Section 50.5.5(d)(8) for items subject to RT. Welds which have been designated to receive radiographic examination and are found to be inaccessible to a radiation source or film or are otherwise so situated that radiographic examination is not feasible may be examined, with written approval, by dye penetrant, magnetic particle tests, or ultrasonic tests.

    d. Ultrasonic Testing (UT): Examine, evaluate, and report ultrasonic testing of welds in conformance to the requirements of applicable AWS D1.1, D1.2, D1.5, and D1.6, Inspection Clauses, for statically loaded connections. Provide ultrasonic equipment capable of making a permanent record of the test indications. Make a record of each weld tested.

    e. Magnetic Particle Inspection Conform magnetic particle inspection of welds to the applicable provisions of ASTM E709.

. Liquid Penetrant Inspection (PT): Perform liquid penetrant inspection of welds conforming to the applicable provisions of ASTM E165.

f. Testing Frequency

(1). Visual Inspection: 100% of all welds.

(2). UT:

a. 50% of all the Fracture Critical Welds (FCW) including FCW on the hinge assembly. Consider all welds connecting the Fracture Critical Member (FCM) to be Fracture Critical Weld (FCW).

b. Randomly test 50% of all PJP and fillet welds other than FCW using UT as per Table 6.2 of AWS D1.1 and D1.5.

(3). RT: 25% of all other Complete Joint Penetration (CJP) welds

(4). PT: Test welds in the “potential” leak path in accordance with Appendix VIII of Section VIII of ASME Code Div. 1.

g. Test Coupons: The City reserves the right to require the Contractor to remove coupons from completed work when doubt exists as to soundness that cannot be resolved by nondestructive testing. When coupons are removed from any part of a structure, repair the members cut in a neat manner with joints of the proper type to develop the full strength of the members. Peen repaired joints as approved or directed to relieve residual stress. The expense for removing and testing coupons, repairing cut members and the nondestructive testing of repairs will be borne by the City if the work is not found to be defective or the Contractor if the work is found to be defective.

h. Supplemental Examination: When the soundness of any weld is suspected of being deficient due to faulty welding or stresses that might occur during shipment or erection, the City reserves the right to perform nondestructive supplemental examinations before final acceptance. The cost of such inspection will be borne by the City. If welds are found to be defective, the Contractor must repair the defective work and bear the cost of the inspection.

i. Welding Repair Plan: Repair defective welds in accordance with AWS D1.1, D1.2, D1.5, or D1.6, applicable Fabrication Clause. Remove defective weld metal to sound metal by use of grinding, air carbon arc or oxygen gouging. Thoroughly clean surfaces before welding. Retest welds that have been repaired by the same methods used in the original inspection. Except for the repair of members cut to remove test coupons and found to have acceptable welds costs of repairs and retesting will be borne by the Contractor. Submit welding repair plans for steel, prior to making repairs.

j. Inspection and Testing of Steel Stud Welding – Perform fabrication and verification inspection and testing of steel stud welding conforming to the requirements of AWS D1.1, Welding Clause

except as otherwise specified. The Testing Agency will serve as the verification inspector. Bend or torque test one stud in every 100, including studs that do not show a full 360-degree H/veld flash, have been repaired by welding or whose reduction in length due to welding is less than normal as required by AWS D1.1, Stud Welding Clause. If any of these studs fail, bend or torque test two additional studs. If either of the two additional studs fails, all of the studs represented by the tests will be rejected. Studs that crack under testing in the weld, base metal or shank will be rejected and replaced by the Contractor at no additional cost.

(C). FACTORY ACCEPTANCE TESTS

1. Operate each and every fully assembled flood gate at the factory prior to shipping to test all opening and closing operations. Fully assembled flood gate includes gate panel, gate seals, gate frame, hydraulic lifting arms, and any other permanent bracing. Hydraulic power used to raise the gate during the test must be provided using a hydraulic power unit of the same size and capacity that will be used to power the gate in its installed condition.

2. Testing of Rubber Seals: If rubber seals with fluorocarbon film are used, perform one test on the fluorocarbon film of seals of 3% of the fully assembled flood gates for adhesion bond in accordance with ASTM D413 using either the machine method or the deadweight method. Cut a 1-inch long piece of seal from the end of the seal which has been masked and subjected to tension at an angle approximately 90 degrees to the rubber surface. There must be no separation between the fluorocarbon film and the rubber when subjected to the following loads:

Thickness of Fluorocarbon Film	Machine Method at 50 mm^2 inches per minute	Deadweight Method
0.060 inch	30 pounds per inch width	30 pounds per inch width
0.030 inch	30 pounds per inch	30 pounds per inch width

3. Shop chalk test each and every fully assembled flood gate against a reference frame for compression and inflatable gasket gates:

   a. Apply chalk to the bearing surface of the knife edge and close the gate by normal procedure.

   b. When the gate is reopened, the chalk from the knife must have been transferred to the gasket.

   c. The chalk imprint must be in the center three-fifths of the width of the gasket with 100 percent continuous contact of knife edge to gasket.

4. Water Hose test on each and every fully assembled flood gate against a reference frame for lip seal gate. Accomplish the water hose test as follows:

a. There shall be no inadvertent leakage paths around the seals. The intent of this specification is that the gasket shall be in contact with the seal plate over the entire length when the gate is in the closed position. With the gate in the closed position, the spray from a hose shall be directed along every horizontal and vertical inch of the seal at the contact point between gasket and seal plate. The nozzle of the hose may be directed toward either side of the seal but shall be no more than 12 inches from the contact point between gasket and seal plate. The spray shall be as nearly perpendicular to the seal as access permits. The flow of water from the hose shall be no less than 8 gallons per minute and the water pressure in the hose just upstream of the nozzle shall be no less than 40 psi, as measured by a calibrated gauge. If leakage occurs at any point along the seal, the gap between the gasket and seal plate shall be measured by means of feeler gauges while the water is not running. A maximum gap of 1/16 inch over not more than 12 inches will be accepted.

5. Air leakage test on 10% of fully assembled flood gates for inflatable gasket gate: Inflate gasket(s) and confirm no loss of pressure over 6-hour time period.

6. Full Hydrostatic Test

a. Construct a temporary water barrier or utilize a test chamber to test the flood gates as approved by the Engineer. The Hydrostatic Test must be performed on 1 roller gate, and 3 flip-up gates. Water level for the hydrostatic test must be to the top of the gate. Protect equipment from any water leakage that occurs during testing.

b. Provide independent hydrostatic test data from an independent third party as defined in Part 1 above certifying that the barrier furnished has been satisfactorily tested to verify that it will withstand the design hydrostatic pressure with leakage specified in **Section 50.13 (B),** of this spec, per foot of wetted panel assembly perimeter. Include flood barriers, wiper walls and anchors, and all other components of the complete assembly. Linear feet of wetted perimeter is defined as one times the length of the gate panel in the assembly, plus twice the flood height against the barrier. The length of a seal between two gate panels must not be double counted, therefore for gates sealing against another gate, the linear feet of wetted perimeter is defined as one times the length of the gate panel plus one times the flood height against the barrier.

c. Apply static point loads representing debris impact loads at multiple points along the gate as indicated on the Contract Drawings.

d. Completely deploy continuous Flip up gates to be tested.

(D). Gates will be considered defective if it does not pass tests and inspections.

(E). Prepare and submit test and inspection reports. Provide video evidence of the Factory Acceptance Testing.

RHCR 50.21 EXAMINATION

(A). Examine substrates and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.

(B). If substrate preparation is the responsibility of another installer, notify the Engineer of unsatisfactory preparation before proceeding.

(C). Examine roughing-in for hydraulic piping to verify actual locations of piping connections before equipment installation.

(D). Examine pits, foundations, walls, columns, pilasters and HPU enclosures for suitable conditions where each style of gate will be installed.

(E). Proceed with installation only after unsatisfactory conditions have been corrected.

RHCR 50.22 PREPARATION

(A). Clean all parts and surfaces thoroughly prior to installation. Remove packing compounds, rust, dirt, grit and other foreign matter. Clean holes and grooves for lubrication. Examine enclosed chambers or passages to make sure that they are free from damaging materials. Where units or items are shipped as assemblies they will be inspected prior to installation. Disassembly, cleaning, and lubrication will not be required except where necessary to place the assembly in a clean and properly lubricated condition. Do not use pipe wrenches, cold chisels, or other tools likely to cause damage to the surfaces of rods, nuts or other parts used for assembling and tightening parts. Tighten bolts and screws firmly and uniformly but take care not to overstress the threads.

(B). When a half nut is used for locking a full nut place the half nut first followed by the full nut. Apply the half nut snug tight before applying full torque on the full nut. Lubricate threads of all bolts except high strength bolts, nuts, and screws with an appropriate lubricant before assembly. Coat threads of corrosion resisting steel bolts and nuts with an approved anti-galling compound. Driving bolts or keys will not be permitted.

(C). Prepare surfaces using the methods recommended by the coating manufacturer for achieving the best result for the substrate under the project conditions.

RHCR 50.23 ERECTION, GENERAL

(A). Install gates in accordance with manufacturer's instructions. Assemble and install gates and appurtenant items as set up and tested at the factory prior to shipping in strict accordance with the approved manufacturers shop drawings, installation drawings, and shop match-markings. Before assembly and installation, thoroughly clean and lubricate all bearing surfaces requiring lubrication with an approved lubricant. Field assemble all components in correct alignment before field welding commences.

1. Alignment and Setting: Accurately align each machinery or gate unit using steel shims or other approved methods so that no binding in any moving parts or distortion of any member occurs before it is fastened in place. The

alignment of all parts with respect to each other must be true within the respective tolerances required. Set true machines to the elevations shown.

2. Blocking and Wedges: Remove all blocking and wedges used during installation for the support of parts to be grouted in foundations before final grouting unless otherwise directed. Blocking and wedges left in the foundations with approval must be of steel or iron.

(B). OVERHEAD CLEARANCE

1. Overhead clearance shown on Contract Drawings to adjacent structures. Protect overhead structures and utilities.

(C). HPU ENCLOSURES AND FIXED WALLS: Provide aluminum or stainless-steel seal faces to maintain contact with adjacent gate seal and protective gaskets when gates are fully deployed, as indicated on the Contract Drawings.

RHCR 50.24 CONNECTIONS

(A). Connections between the flip-up gate panels must not exceed the maximum leakage rate given in **Section 50.13 (B)**, of this specification.

(B). Connections between adjacent floodgate panels must not require additional posts, columns or other fixtures.

RHCR 50.25 FIELD QUALITY CONTROL

(A). SPECIAL INSPECTIONS: The Contractor is required to engage a qualified special inspector to perform the following special inspections. These inspections are supplemental to quality control and the responsibility of the Contractor, performed at the Contractor’s sole expense. The Technical Report reports must be submitted to the Engineer for approval, but will not be submitted to the NYC Department of Buildings for Building Code compliance. The firm performing the supplemental Special Inspections must meet all the requirements for Building Code Special Inspections, and shall be submitted to the Engineer for approval. All technicians must meet Building Code requirements, and be approved by the Engineer.

(B). Engage a factory-authorized service representative to test and inspect components, assemblies, and equipment installations, including connections.

(C). After installation, test the Flood Gates in accordance with the approved testing plan, at no additional cost to the City, by an independent qualified testing and inspection agency in the presence of the Engineer. The Engineer may choose to observe the test in person or from a remote location. Manufacturer’s representative must verify that installation of assembly and that the perimeter conditions are in conformance with the manufacturer's recommendations. Testing agency must perform inspections and prepare test reports. Perform tests with flood barrier installed in place. Perform the following tests and inspections with the assistance of a factory-authorized service representative.

1. Operational Testing:

   a. Operate and field verify gates including the sealing surfaces to ensure that they maintain contact at the correct sealing points.

b. Verify that hinging and latching assemblies operate freely and correctly.

c. Verify all anchorage is in accordance with manufacturer's installation instructions and applicable data sheets.

d. Perform visual dry test for gasket alignment, continuity contact and pre-compression.

e. Perform a field chalk test and water hose test on each gate as specified in Section 50.20 (C).

f. Replace those items that cannot be adjusted to operate freely and smoothly as intended for the application made.

g. Demonstrate operation of the gates using all modes of deployment with the proposed equipment to be utilized in the O&M manual.

2. Correct any deficiencies revealed during testing at no additional expense to the City. Remove and replace assemblies where inspections indicate that they do not comply with the specified requirements.

3. The Contractor must repeat test as necessary until test results meet Contract Document requirements. Perform additional testing at no additional expense to the City.

(D). Floodgates will be considered defective if it does not pass tests and inspections.

(E). Prepare test and inspection reports.

RHCR 50.26 ADJUSTING

(A). Adjust hardware and moving parts to function smoothly and lubricate as recommended by manufacturer.

RHCR 50.27 PROTECTION

(A). Protect installed products until substantial completion of project.

(B). Touch-up, repair or replace damaged products before Substantial Completion.

RHCR 50.28 ACCEPTANCE TRIAL OPERATION

(A) After completion of the gate installation, the Engineer will examine the gates for final acceptance. The gates will be examined first to determine whether or not the workmanship conforms to the specification requirements and the standard of painting and corrosion protection. The Contractor will then be required to operate the gates from the fully-opened to the fully-closed position to demonstrate that all parts are functioning properly. The number of error-free gate opening-closing operations, acceptable to the Engineer’s satisfaction, will follow the guidelines below.

1. Flip Up Gates: Operate each segment of gates at least once using normal gate operating sequence and at least once using the alternative operating procedure. The City will make the telehandler available to the Contractor to

open gates using the alternative operating procedure. Refer to gate Operation & Maintenance (O&M) manual for details of operating procedures.

2. Roller Gates: Operate at least once using normal gate operating sequence and. at least once utilizing each of the alternative operating procedures. Refer to gate O&M manual for details of operating procedures.

(B). Make required repairs or replacements to correct defects at no additional cost to the City. Repeat the trial operation after defects are corrected. Prior to final acceptance of the gates, provide temporary restraints to prevent unauthorized operation of the gates.

(C). Final Acceptance of the flood gates will only be granted when all components of the Flood Protection System (FPS) have been installed, tested and accepted. Acceptance of the flood gates, independent of the full FPS, will not be granted.

RHCR 50.29 DEMONSTRATION

(A). Engage a factory-authorized service representative to provide an orientation for the City's maintenance personnel on how to adjust, operate, and maintain units.

(B). REPRESENTATIVES OF EQUIPMENT MANUFACTURERS:

1. The Contractor shall provide the services of qualified factory trained representatives of the equipment manufacturers, who shall provide the following services:

   a. Conduct orientation of City personnel as specified herein. One day of orientation by a manufacturer's representative shall be defined as a minimum of eight (8) hours on-Site.

   b. Orientation shall be conducted by the manufacturer's factory-trained representative and shall be provided for the following as coordinated with the City. Each session below shall be limited to a maximum of eight (8) City personnel, and shall be provided for an anticipated total of 200 City personnel.

      (1). Classroom Orientation:

         i. Flip-Up Floodgates – One (1) session of two (2) hours long

         ii. Roller Floodgates – One (1) session of two (2) hours long

      (2). Field Orientation:

         i. Flip-Up Floodgates – Two (2) sessions of four (4) hours each

         ii. Roller Floodgates – Two (2) sessions of four (4) hours each

      (3). Orientation shall not take place until after the floodgates have been installed and tested.

2. The manufacturers' representatives shall devote, at a minimum, the amount of full time specified under the Contract Documents.

(B). ORIENTATION:

1. As part of these services, the City will provide the necessary personnel to be oriented in the operation and maintenance of the equipment.

2. The orientation shall consist of both classroom and field instruction. The purpose of field instruction shall be to reinforce topics covered in the classroom and to identify the location of equipment required for operation; and to identify the location of any maintenance equipment.

3. All orientation shall take place in-person at the Work Site at a place specified by the City and shall be conducted by qualified orientation specialists. Remote or virtual orientation may not be substituted for in-person orientation.

4. The Contractor shall coordinate the manufacturer’s orientation services with the City, providing a minimum of fourteen (14) days prior notice of orientation, subject to the approval of the City.

5. In order to provide orientation for an adequate number of City operation and maintenance personnel, a minimum of two 8 hour orientation days shall be provided for each type of gate, unless otherwise specified in the Contract Documents.

6. The Contractor shall deliver all orientation material to the Engineer a minimum of fourteen (14) days prior to the scheduled orientation.

(C). LESSON PLANS:

1. The Contractor shall submit the equipment manufacturer's lesson plans, which shall include specific information about each item of equipment or equipment system, including controls. Lesson plans shall include but not be limited to the following information and meet the following requirements:

   a. The Contractor shall submit the equipment manufacturer's lesson plans for approval by the Engineer no less than sixty (60) days prior to the date that the orientation is to take place.

   b. The lesson plan shall indicate when orientation aids are used or referred to during the course of instruction.

   c. An outline of required lesson plan contents is included below:

      (1). Equipment Description:

         i. Purpose and function of equipment and auxiliary equipment and systems.

         ii. Physical arrangement of equipment components, hydraulic supply, and electrical supply.

         iii. General function of controls, including automatic and manual operation, interlocks, and shutdowns.

      (2). Equipment Operation:

i. Operating requirement for equipment to perform satisfactorily.

ii. Typical operating procedures.

iii. Backup and emergency operation procedures.

iv. Start-up and shutdown procedures.

v. Use of controls.

(3). Equipment Monitoring:

i. Recommended routine instrument readings and operational checking.

ii. Early warning signs of developing operational or equipment problems.

iii. Procedures for handling non-routine problems such as alarms, power failures, component failures, etc.

(4). Equipment operational trouble-shooting procedures.

(5). Safety and Housekeeping:

i. Safety features of the equipment.

ii. Safe practices.

iii. Housekeeping practices.

(6). Description of the use of the equipment manufacturer's O&M Manual as regards operation.

(7). Preventive Maintenance Requirements:

i. Maintenance needs for equipment.

ii. Recommended schedule for performing preventive maintenance.

iii. Provide preventive maintenance record forms (if available).

(8). Maintenance Inspection Program:

i. Parts, components and areas of equipment to inspect for routine preventive maintenance.

ii. Recommended frequency of inspection.

iii. Inspection procedures.

iv. Problem identification.

(9). Maintenance Troubleshooting:

i. Sections in O&M Manual detailing trouble-shooting procedures.

ii. Summarize trouble-shooting procedures.

iii. Tests used to verify trouble-shootings findings.

(10). Disassembly and Assembly:

i. Summarize disassembly and assembly procedures.

ii. O&M Manual coverage of subject.

iii. Testing to verify success of corrective maintenance.

(11). Equipment Calibration:

i. Calibration needs and tolerances.

ii. Calibration equipment.

iii. O&M Manual listing of calibration ranges, tolerances and settings.

(12). Warranty information and service contract description, if applicable.

(D). ORIENTATION AIDS:

1. Orientation aids shall be used as an integral part of the orientation program. Orientation aids shall include text and/or pictorial handouts specific to the equipment supplied. Handouts shall be legible and printed on good quality stock. Handouts shall be submitted when lesson plans are submitted.

   a. Orientation aids shall be provided via electronic format for record (CD-ROM, USB flashdrive, or similar).

2. Additional orientation aids shall be used for maximum orientation effectiveness and shall include the following as appropriate:

   a. Audio-visual aids, for example, videos, PowerPoint presentations, flow charts, posters, diagrams, and catalogue cuts.

   b. Models and samples, for example, cutaways, incidental parts, tools, miniature models, equipment assemblies, and damaged parts.

3. The use of additional orientation aids shall be identified in the lesson plan, and a description of the additional orientation aids shall be given.

RHCR 50.30 MEASUREMENT AND PAYMENT

(A) Payment will be made at the lump sum price bid for each size and type of fabricated metal floodgate.

RHCR 50.31 PRICE TO COVER

(A) Payment will constitute full compensation for furnishing all plant, labor, supervision, materials, and equipment and performing all operations necessary for furnishing and installation of fabricated floodgates as specified and as shown in the Contract Drawings.

The lump sum price bid for each item is to include

1. The floodgate, complete including coatings, and non-slip surfaces,

2. All submittals, testing and demonstrations required,
3. Shop and field inspection and testing,
4. All operating and control equipment for the flip-up gates including but not limited to hydraulic arms, fluids and hoses, braces, pumps, and motors including all equipment in HPU enclosures,
5. Field oversight and inspection by factory authorized representative,
6. Electric winch motors and steel pedestals for operating roller gates,
7. Embedded and/or sill, jam, door support beams, latches, and hinge plates attached to walls and footings,
8. Drainage pans,
9. Embedded seal plates for flip-up gates at HPU enclosures, columns, and walls,
10. Accessories and appurtenances,
11. Incidental parts,
12. Telehandlers and lifting jibs,
17. Demonstration and orientation for the City's maintenance personnel.

(B). The lump sum price for these items excludes the following work paid under other items

1. Reinforced concrete foundations and supporting walls, reinforcing and pile foundations,
2. Power supply for motors,
3. Drainage pipes from flip up gate pits, and
4. Conduit from hydraulic power units to gates for both hydraulic hoses and electric power supply

Payment will be made under:

Item No.	Item	Pay Unit
RHCR-354913.F1	FURNISH AND INSTALL FLIP-UP FLOODGATE 1 (20'x3')	LS
RHCR-354913.F2	FURNISH AND INSTALL FLIP-UP FLOODGATE 3 (26'x3'8")	LS
RHCR-354913.F3	FURNISH AND INSTALL FLIP-UP FLOODGATE 4 (20'x3')	LS
RHCR-354913.F4	FURNISH AND INSTALL FLIP-UP FLOODGATE 6 (36'9"x3')	LS
RHCR-354913.F5	FURNISH AND INSTALL FLIP-UP FLOODGATE 7 (40'2"'x3')	LS
RHCR-354913.F6	FURNISH AND INSTALL FLIP-UP FLOODGATE 8 (18'x3')	LS
RHCR-354913.F7	FURNISH AND INSTALL FLIP-UP FLOODGATE 9 (39'x3')	LS
RHCR-354913.F8	FURNISH AND INSTALL FLIP-UP FLOODGATE 10 (25.5'x3')	LS
RHCR-354913.P	FURNISH AND INSTALL HYDRAULIC POWER UNITS	LS
RHCR-354913.R1	GATE 2 (ROLLER GATE)	LS

RHCR-354913.R1	GATE 5 (ROLLER GATE)	LS

END OF SECTION

SECTION RHCR-522 – JET GROUTING

RHCR 522.01 INTENT.
This section describes the performance of the jet grouting that will be used in the flood protection system as a seepage barrier, floodwall, and ground improvement. The Contractor shall be responsible for selecting jet grouting parameters, equipment, and construction methods to meet the specified requirements of the Engineer. Design, consisting of area replacement ratio and depth of the elements or structures created by jet grouting is to be by the Engineer. Detailing to construct the required elements or structures is by the Contractor.

RHCR 522.02 Description.

Jet grouting consists of creating soil-cement in situ by jet grouting to increase the compressive strength of the subsurface soils over the depths and limits shown on the Contract Drawings.

The work shall consist of all labor, equipment, materials, testing, and supplies necessary to design and install the jet grouting to meet the specified performance requirements.

The Contractor shall use the jet grouting method to install soil-cement in areas indicated on the Contract Drawings to form complete and continuous soil-cement elements.

RHCR 522.03 Materials.

The grout slurry may consist of a homogeneous mixture of any of the following materials:

(A) Cement, Portland, Type II, ASTM C-150 or AASHTO M85

(B) Ground granulated blast furnace slag, ASTM C989 (Standard Specification for Ground Granulated Blast-Furnace Slag for Use in Concrete and Mortars)

(C) Fly ash Class C or F, ASTM C618 or AASHTO M295.

Fly ash class to be utilized depends upon the required end product. Calcium content and loss-on-ignition properties to be considered for the fly ash that is being proposed.

(D) Potable Water or approved other source shall be free of deleterious materials that may adversely affect the grout. If water is from sources other than recognized potable water suppliers, the water shall be analyzed, e.g., in accordance with AASHTO T26, to ensure that it will have no adverse effect on the setting, hardening or durability of the mix and, where applicable, will not promote corrosion of the reinforcement.

(E) Bentonite, if required, powdered bentonite per API Standard 13A.

(F) The ratios of the material components, by weight, shall be proposed by the Contractor, confirmed during the preconstruction test program, and reviewed by the Engineer. Once accepted, grout slurry composition shall not be changed unless requested in writing by the Contractor and accepted in writing by the Engineer.

RHCR 522.04 EQUIPMENT.

(G) All equipment used for drilling boreholes; lowering, raising and rotating jet monitors; mixing grout; supplying pressurized grout and air-water to jet monitors; and jet monitors shall have proven performance records for use in jet grouting work, as demonstrated by the information to be submitted.

(H) Drilling Equipment

Use drilling equipment of a type and capacity suitable for drilling required hole diameters and depths, and lowering, raising, and rotating jet grout monitors to the depths and at the rates required

to perform the work as shown on the Contract Drawings and as specified herein. The drill rig shall be equipped with automated controls to regulate and maintain consistent rod lift rate and rod RPM, and shall have pressure gauges and flow meters for all fluids injected.

The drilling equipment shall have specialty drilling bits capable of advancing through the site subsurface conditions including, but not limited to, concrete, brick, stones, timber piles, seawalls, cobbles, and boulders.

(I) Grout Mixing and Injection Equipment

Use grout mixers and holding tanks, water tanks, air compressors, and pumps of sufficient capacity to ensure adequate supply of grout, air, and water at required pressure to the jet grouting monitors during a full work shift to produce grout elements of the quality and dimensions necessary.

Grout mixers must be high shear type and equipped with load cells to accurately weigh and proportion each component of the grout mix. Paddle type mixers must be utilized.

For high grout volume demand, batch mixing may not produce sufficient supply and alternate mixing methods must be considered with evidence that quality is not compromised.

(J) Jet-Grouting Pump

Shall be capable, with the nozzles proposed, of providing the required pressure and flow rate adequate for the execution of the work.

(K) Compressor (for Double and Triple Fluid Jet-grouting)

Shall be capable of producing the pressure and flow rate values proposed by the Contractor depending on the parameters chosen.

Double fluid jet grouting refers to the jet grouting technique where one fluid, typically neat cement grout, is injected at high velocity through horizontal radial nozzle(s) and is assisted by a second fluid, typically air, delivered through a coaxial nozzle(s), to directly erode and mix with the in-situ soil.

Triple fluid jet grouting refers to the jet grouting technique where one fluid, typically water, is injected at high velocity through horizontal radial nozzle(s) and is assisted by a second fluid, typically air delivered through a coaxial nozzle(s), to erode the in-situ soil, while a separate nozzle placed lower on the monitor delivers a third fluid, typically neat cement grout, at lower velocity to simultaneously fill the soil zone eroded by the cutting fluids (air and water).

(L) Filling Grout Pump (for Triple Jet-Grouting)

Shall be capable of producing the pressure and flow rate required, and proposed by the Contractor depending on the parameter chosen.

(M) Jet Grout Tools

Contractor shall use jet grouting monitors with appropriate nozzles with the capacity suitable for producing jet grout elements in the soil types identified during Subsurface Explorations performed at the site, and of the size and depth shown on the Contract Drawings and as specified herein. The drill hole diameter shall be sufficiently large to be a clear path for continuous spoil return during all jetting operations.

(N) Equipment Instrumentation

Contractor shall provide instrumentation that allows continuous monitoring and automatic recording of data throughout the jet grouting operations. As a minimum, the following shall be provided:

- Pressure gauges/devices at the drilling rig to automatically record pressures of cement grout, water, and air during the grouting process.
- Flow meter(s) to monitor and record the rate and total volume of grouting fluids through the grouting monitor at every element.
- Devices that automatically monitor and record the rate of monitor rotation and withdrawal.

RHCR 522.05 CONTRACTOR QUALIFICATIONS

(A) The entity performing the jet grouting shall be experienced in jet grouting operations comparable to that described herein and have at least 5 years of experience in jet grouting methods. Jet grouting experience shall include at least 5 projects of similar magnitude and complexity to that required for the program specified herein.

(B) The jet grouting field superintendents shall each have at least 5 years of experience in jet grouting techniques similar to that required for the Work; including at least 2 projects, one of which within the past 5 years of similar magnitude and complexity to that required for the Work.

RHCR 522.06 SUBMITTALS

(A) Contractor must submit qualifications, and information regarding similar projects the Contractor has constructed, where jet grouting was utilized.

(B) Jet Grouting Equipment

Contractor shall provide catalog cuts, details of grout mixers, pumps, drill rigs, and a plan view of the jet grout equipment arrangement proposed for use on this project, noting any equipment that has been modified or is of unique construction.

Examples of field data collection forms, including a sample copy of daily field report.

(C) Grout Mix Design

Mix design for the project indicating sources and types of grout materials, including (if available) field test data from previous projects.

Method for verifying grout mix proportions.

(D) Field Demonstration Test Program

Details of proposed field demonstration test program for jet grouting. This shall include location of test columns, layout of test pattern, jet grouting parameters to be used and variables to be tested during test program, and details of proposed quality control/quality assurance testing to meet acceptance criteria specified.

Following performance of the field demonstration test program and prior to beginning production jet grouting operations, submit a summary of the test program including details regarding as-built layout of test area, drilling procedures, grout mixture, jet grouting parameters, quality control/quality assurance records and test results, and proposed jet grouting parameters for use in production grouting based on test program.

(E) Jet Grouting Procedure

General Work Procedures Plan outlining the spacing, location, depth and general sequence to achieve the specified criteria detailed in this specification. Jet Grout element locations shall be dimensionally referenced to the contract drawings and shown on layout plans of suitable scale to effectively indicate the details of the layout. If pre-drilling of jet grout holes is to be utilized, describe the methods and type of equipment to be used.

Contractor to provide a jet grout spoil return management plan outlining waste containment methods during jet grouting and treatment and removal plans for jet grout spoil return. Include estimated width of annulus for spoil return and corrective actions to be taken if spoil return is not free-flowing, interrupted or episodic.

Jet grout site specific safety plan or job hazard analysis.

(F) Quality assurance, quality control and verification procedures to be used for the field test and production work.

Details of the procedures to obtain soil-cement samples; and catalog cuts or shop fabrication drawings of the soil-cement sampling device and curing boxes.

Proposed details and formats of all required tabular and graphical data presentations that will be submitted to the Engineer during the course of the Work. This shall include submittal of a copy of the reports used for data monitoring and recording.

Details for hydraulic conductivity testing and/or water-tightness testing if specified.

Details of column diameter and overlap verification.

(G) Contingency Plan shall be established by the Contractor to remediate any condition where it is found that jet grout columns were not constructed to the required or planned dimensions, including diameter or length.

(H) Daily Reports

Within one business day after the end of a work shift, the daily reports shall be submitted to the Engineer.

RHCR 522.07 TEST PROGRAM.

(A) Prior to production work, a test program shall be conducted by the Contractor in accordance with the accepted work plan, at an on-site location agreed upon with the Engineer. The test program shall resemble the production jet grouting that will be constructed for the project.

The test program shall be used to optimize/verify the various parameters including type of jet-grouting (single, double or triple), necessity of pre-jetting with water, grout mix composition, fluid(s) flows and pressures, rotational speed, lift rate, spoil return, grout, and number and size of nozzles; and confirm that resultant in situ soil-cement properties and dimensions meet required design criteria.

(B) The test program will be observed, reviewed and verified for contract conformance by the Engineer. The test program shall be installed within the project site in areas near the planned production work at a location agreed upon between the Engineer and the Contractor and in representative soils and depths anticipated to be found during production work.

(C) Each test section shall consist of a plan of elements suitable to demonstrate feasibility and installed to the same elevations specified for the production jet grouting work.

(D) The test elements shall be exposed by excavation for the upper 8 ft and measured for geometric properties. Proper shoring shall be installed to ensure the safe sampling and testing of the jet grout column at no additional cost to the City.

Core samples or other testing method shall be used to demonstrate column size/geometry for the full length. Coring at the centroid of a group of three (3) elements shall be carried out, as a minimum.

Where coring is used to verify diameter for the full length, verticality shall be measured for each test column and the core holes to verify the location of the elements at the final depth.

Three acceptable/representative specimens from each column shall be sent to an independent Laboratory for the tests required to satisfy the criteria specified in the Acceptance Criteria section. The costs for the coring, sampling, and testing and all associated work must be included in the Contractor's unit prices for jet grouting.

(E) Perform hydraulic conductivity testing when jet grouting is used as a seepage barrier. Hydraulic conductivity testing procedures shall be in accordance with ASTM D2434, or as approved by the Engineer.

(F) The results of the test program and the recommended jet grouting parameters for the production work shall be submitted in a report to the Engineer for approval.

The Contractor, at their expense, may be required to repeat the construction of a test section if the results of the test program do not meet the project requirements. The test program shall confirm that the resultant soil-cement properties met the required design criteria prior to the Contractor proceeding with production work.

(G) Jet grout columns for production and the testing program shall be installed using the same make and model of mixing machinery, cement grout mixing and pumping equipment, and the same materials and procedures implemented by the contractor. The production jet grout columns must follow the materials and procedures accepted in the test program.

RHCR 522.08 INSTALLATION OF JET GROUT

(A) Contractor shall conduct all survey layout and utility clearance for the jet grouting operations and coordinate with all other Work on the site. Jet grouting shall be installed in a manner so as to not create obstructions or hindrances to subsequent aspects of the Work.

(B) Contractor shall take all precautions necessary to prevent movements and damage to any existing structure, roadways and utilities, and also prevent settlement or heaving of the ground that could occur due to jet grouting operations in the vicinity of existing structures and utilities.

(C) Jet grouting around existing DEP sewers that are to remain in-service shall only commence after the sewer has been inspected using a CCTV system to verify and record the existing conditions of the sewer at no additional cost to the City. If the condition of the sewer is such that the jet grouting operations might cause further damage to the sewer and/or result in the leakage of jet grout into the sewer, the interior walls of the sewer shall first be lined in accordance with NYCDEP Standard Sewer and Water Main Specifications Section 50.71 Reconstruction of Existing Sewers Using DEP Approved Cured-in-Place-Pipe (CIPP) Lining Method.

(D) Jet grout columns shall be installed using the same make and model of; mixing machinery, cement grout mixing and pumping equipment, and the same materials and procedures implemented by the Contractor and accepted in the test program.

(E) Jet grout columns shall be installed in accordance with the patterns developed by the Contractor and accepted by the Engineer, to achieve the compressive strengths, unit weights, and required plan area coverages over the depths and limits shown on the Contract Drawings. Where the jet grouting layout consists of overlapping jet grout columns, center-to-center spacing of jet grout elements shall at any elevation

not be greater than 75% of the jet grout column diameter and shall include allowance for tolerable vertical alignment deviation. The required strengths and unit weights are as follows:

Soil Type	Soilcrete Unit Weight (min) PCF	Soilcrete Unconfined Compressive Strength (min) PSI
Sand and gravel	120	750
Silty sand and silt	120	750
Clay	115	400
Organic Silt	110	250

(F) After final jet grouting, the Contractor shall obtain samples of in-situ jet grout in accordance with the locations and frequencies specified in the Quality Assurance-Quality Control Program.

(G) Any jet grouted element, which exhibits partial or total instability, shall be remediated at no additional cost to the City. The Engineer will provide direction regarding jet grout columns that according to the records were not constructed to replicate test columns, and agreed upon production jet grouting procedure; additional measures shall be required for these jet grout columns.

(H) Once jet grouting is started at any location, the jet grouting operation shall continue until the soil-cement element is completed. If jet-grouting is interrupted during the execution of a column, the re-start of the jetting shall be undertaken at least 1 foot below the stopping point.

(I) Jet grout columns shall not be installed within 2 ft as measured between outside edges of soil-cement elements that are less than 48 hours old. The 48 hour delay may be shortened if the Contractor demonstrates to the satisfaction of the Engineer that the installation of any adjacent placements would not have a deleterious effect on any previously installed soil-cement elements or the ground.

(J) The following horizontal and vertical alignment tolerances shall apply for the jet grouting:

- The maximum horizontal deviation of the as-installed center of any jet grout column at the ground surface or mudline installation level shall not exceed 3 in. from the layout center coordinate, shown on the accepted Contractor's submittal.
- The vertical alignment of the jet grout column (ie. vertical columns) shall not deviate in any direction more than 2% from vertical.
- At the direction of the Engineer, any jet grout column which exceeds the allowable horizontal or vertical tolerances shall be re-mixed within two days of initial placement, or supplemented with one or more adjacent overlapping columns, at no additional cost to the City.

(K) Contractor shall follow the approved Contingency Plan for the remediation of any condition where it is found that jet grout columns were not constructed to the required or planned dimensions, including diameter or length. This could occur due to the clogging of the equipment by the generated spoils. For such conditions, it might be necessary to install additional jet grout columns, or regrout

the locations and depths affected. All remediation work performed by the Contractor shall be at not additional cost to the City.

RHCR 522.09 OBSTRUCTIONS

(A) Subsurface strata may contain rubble, concrete, reinforced concrete slabs, timber piles, steel, bricks, stones, seawalls, abandoned foundations, utilities and other materials that can obstruct jet grouting operations. Where unknown obstructions are encountered during the jet grouting, the Contractor shall remove the obstruction or install additional jet grout columns to encapsulate the obstruction, at the direction of the Engineer.

(B) Each situation shall be resolved on a case-by-case basis. Payment shall be based on an agreed upon unit rate for handling obstructions. If such conditions are encountered, the Contractor shall notify the Engineer in writing, and provide all pertinent information relating to the nature, depth, plan location coordinates, expected extent of the obstruction, and proposed procedures to overcome the obstruction.

(C) If drilling for jet grouting cannot proceed due to an obstruction, the Contractor may elect to remove the object or submit an alternate jet grouting layout pattern to avoid or encapsulate the object, subject to the acceptance of the Engineer. Alternately, the Contractor may drill through the obstruction. Removal of the obstruction, or drilling through the obstruction shall be paid at the obstruction rate, while offsetting the column location will be paid at the standard rate for jet grouting in subsurface soils.

RHCR 522.10 CONTAINMENT, COLLECTION, AND DISPOSAL OF SPOIL RETURN.

(A) At all times during jet grouting operations, the site shall be maintained cleared of all debris and water. Spoil return shall be piped or channeled to tanks or other collections structures. The Contractor shall regularly dispose of all waste materials in accordance with the requirements of the DEP and all other agencies having jurisdiction.

(B) Contractor shall be aware that subsurface contamination is expected in Reaches 2 – 6, 9a, 15-19 for the Atlantic Basin Area and Reaches 1 through 17 in the Beard Street Area and shall implement all necessary measures to prevent the spread of the contaminated material. The extent and content of the contaminated materials can be found in the Contract reference documents, but the Contractor shall perform their own testing for verification and disposal purposes.

(C) All jet grout collection, containment, and disposal methods shall be shown on the shop drawings in the Contractor’s submittals to the Engineer prior to the start of jet grout operations. The Contractor shall be responsible for and incorporate all sedimentation and turbidity control measures required by applicable federal, state, and city regulations.

(D) The Contractor must take all necessary precautions and implement measures to prevent any spoil return, other spoil material or stockpiles materials from entering the storm drain structures, drainage courses, and other utility lines or from leaving the site via surface runoff. The Contractor must prevent the migration of spoil return, spoil material, or stockpiled materials into any surface water body, beyond the immediate limits of jet grouting operations.

RHCR 522.11 QUALITY CONTROL / QUALITY ASSURANCE

(A) All jet grouting shall be performed in the presence of the City's QA Representative. City's QA representative shall be notified prior to initiating jet grouting. Monitoring and logging of jet grouting operations for both test areas and production work shall be performed by the jet grouting Contractor.

(B) The Contractor's equipment must l be configured to record and continuously show all fluid flows and pressures, rotational speed, depth and rod lift rates. The rod lift rate and rod RPM shall be set by the driller then automatically controlled by the drill rig and automatically recorded on the jet grout installation log during the entire jet grouting process. The City's QA representative must be provided the means to monitor this information in real time on request.

(C) All the data monitored and recorded shall be made available within one working day to the Engineer in a format previously agreed on prior to the work. The Contractor shall supply the Engineer with the software used for this task. The software shall be capable of processing the recorded data and presenting the data graphically in a satisfactory manner.

(D) Grout mix proportions shall be measured and documented by the Contractor per the submittal requirements. Appropriate records shall be kept by the Contractor and submitted to the Engineer to verify that grout mixture(s) are as accepted. Include daily quantities of materials used in Daily Reports.

(E) Throughout the jet grouting operations, perform continuous coring to full depth on 5% of production columns to obtain drill cores of the jet grouted soil. The core will be visually evaluated by the Engineer for compliance with specific acceptance criteria defined in this specification. The Contractor shall be notified immediately if the soil-cement samples do not meet the acceptance criteria outlined herein.

(F) Perform hydraulic conductivity testing of production elements where the jet grouting is used as a seepage barrier at the rate of 5% of the installed columns.

(G) Perform borehole deviation measurements on a daily basis for a minimum of 5% of the columns. Selection of columns for borehole deviation measurements must be approved by the Engineer.

RHCR 522.12 DAILY REPORTS

(A) Within one business day of a work shift, submit summary daily reports during production jet grouting that provide the information listed below. A sample of the report form proposed for use by the Contractor shall be submitted to the Engineer for approval prior to the start of work.

(B) Daily reports shall include the following:

- Equipment and Personnel on site
- Work initiated and completed
- Production interruptions
- Grouting Records
    - Jet grout element number, size and location.

- Time and date of beginning and completion of each grout element, including interruptions to the jetting process or material supply.
- Grout mix data, including mix proportions and unit weight density measurements.
- Injection pressure of all fluids used to construct each grout element.
- Flow rates of all fluids used to construct each grout element.
- Rotation rate and lift rate of jet rods for each grout element.
- Total grout quantity used for each element.
- Top and bottom elevations of the jet grout element.
- Whether flow of spoils return was continuous.

- Total quantities of materials used for that day.
- Observations of any unusual, or unanticipated conditions including obstructions, stoppages, loss of circulation, etc., impacts on instrumentation or monitoring.
- Applicable verification testing done.

(C) Continuous recording of jet grouting parameters shall be provided for each production column to verify consistency with the test program results.

RHCR 522.13 ACCEPTANCE CRITERIA

(A) Installation records, daily reports, and other project documentation shall demonstrate that the selected parameters from the test program were accurately repeated for the production work.

(B) Wet Grab Soil-Cement Samples

A minimum of one in-situ sampling round, consisting of 3 sampling depths with 4 samples from each depth, shall be performed at a frequency of once per day, at locations selected by the Engineer. The samples shall be obtained at the same element which shall consist of a non-cured soil-cement sample obtained at three depths selected by the Engineer. The contractor shall obtain up to an additional wet grab sampling test suite at the direction of the Engineer, if required.

Each retrieved soil-cement sample shall be of sufficient volume to produce a minimum of four full cylinders, 6 in. diameter by 12 in. height. Separate and retain all soil-cement retrieved from each depth.

Soil-cement samples shall be protected from freezing and extreme weather conditions which could have deleterious effect, at all times in accordance with AASHTO T 23.

Soil-cement cylinders from each sampling depth, shall be tested to determine 7 day and 28-day unconfined compressive strength in accordance with AASHTO T 208.

If the Contractor cannot obtain all of the required wet grab samples of the soil-cement, in the designated soil-cement element, the Contractor shall obtain a full suite of wet grab samples from the next soil-cement installed by that rig.

(C) Coring / Uniformity: Recovery minimum 90%; Rock Quality Designation (RQD) minimum 50%

Full-depth core samples retrieved by the contractor shall be used to evaluate uniformity. Coring shall be with PQ-size triple core barrel with side discharge.

Core recovery (expressed as a percentage) is equal to the total length of recovered core divided by the total core run length. Length of recovered core includes lengths of treated and untreated soil.

Percent treatment is calculated as the total length of recovered core minus the sum of the lengths of unmixed soil regions or lumps that extend across the entire diameter of the core divided by the total core run length expressed as a percentage.

Uniformity is acceptable if percent treatment is at least 90% for every 5-ft core run. If the minimum percent treatment cannot be confirmed by coring in coarse sandy or gravelly soil, downhole camera/video can be used to confirm uniformity.

If the Contractor uses core runs shorter than 5 ft (e.g., 3 ft), then the recovery and percent treatment can be calculated by adding equal amounts of core run length on either side of the short core run length to make up a total 5-ft run length for calculation purposes.

(D) Hydraulic conductivity: $1x10^{-6}$ cm/sec

(E) Unconfined Compressive Strength of Jet Grout Soil Cement Mix

(F) At least 90 percent of all jet grout samples tested shall have a minimum 28-day unconfined compressive strength as specified above.

(G) Minimum overlap thickness: Where the jet grouting layout consists of overlapping jet grout columns, spacing between jet grouting columns shall be a maximum of 0.75 x jet grout diameter

(H) Borehole deviation and horizontal tolerances:

- The center of the elements shall not be more than 3 in. from the indicated plan location.
- Deviations shall be less than required for adequate column overlap.

Verification will be by obtaining vertical alignment profiles. Contractor must obtain vertical alignment profiles for 5% of the jet grout cement elements, but not less than one element per day. The vertical alignment profiles must be over the length of the soil-cement element and along two perpendicular axes, as directed by the Engineer.

RHCR 522.14 MEASUREMENT.

The quantity of jet grouting to be measured for payment shall be by the cubic yard, measured to the nearest cubic yard per column, within only the “neat” plan area of the proposed jet grout shown on the Contract Drawings or approved by the Engineer. The volume shall be determined by multiplying the “neat” area within this zone times the actual depth of the jet grout. Jet grouting installed to overcome unknown obstructions shall be included in the total measured quantity of jet grouting, as accepted by the Engineer. Additional quantities of jet grouting installed by the Contractor during remixing to achieve the performance requirements, or that are outside the limits of the jet grout shown on the Contract Drawings without the acceptance of the Engineer will not be measured for payment.

Payment for the jet grout test program will be on a lump sum basis. The test program will consist of initially installing demonstration jet grout columns. The test elements will be required to be exposed to a depth of 8 ft, and subsequently backfilled in a controlled manner to finished grade. Coring at the centroid of each three adjacent jet grout columns shall be required as part of the

testing program, and laboratory testing is expected to include as a minimum, hydraulic conductivity and unconfined compressive strength. Results of the field demonstration test program are to be submitted as a report for the Engineer's review.

RHCR 522.15 PRICE TO COVER.

The contract unit price for jet grouting shall cover the cost of all labor, materials, plant, equipment, insurance, samples, testing, and incidentals required to furnish and install the jet grout within the plan area coverages over the depths and limits shown on the Contract Drawings, in full compliance with the requirements of the specifications. Jet grouting that does not meet the specific performance requirements shall be satisfactorily repaired or replaced by the Contractor at no cost to the City.

The lump sum price for the test program shall cover the cost of all labor, materials, plant, equipment, insurance, samples, testing, reporting, and incidentals required to perform the jet grout test program in full compliance with the requirements of the specifications.

Payment will be made under:

ITEM NO.	ITEM	PAY UNIT
RHCR-522	JET GROUTING	C.Y.
RHCR-522.A	JET GROUTING FOR UTILITY CROSSING SEEPAGE BARRIER – ANGLED	C.Y.
RHCR-522.AO	JET GROUTING FOR UTILITY CROSSINGS SEEPAGE BARRIER – ANGLED AND WITH OBSTRUCTION	C.Y.
RHCR-522 TP	JET GROUT TEST PROGRAM	L.S.

END OF SECTION

SECTION RHCR 552 - SHEETING

552.1 INTENT. This section describes Permanent Sheeting

552.2 DESCRIPTION.
(A) Permanent Sheeting. Under this work, the Contractor shall furnish and install permanent sheeting of the type, at the locations and to the elevation(s) shown in the contract documents or as directed by the Engineer.

552.3 MATERIALS
(A) Permanent Steel Sheeting. Steel sheeting shall be new and unused conforming to the requirements of ASTM A328M.

552.4 METHODS
(A) The Contractor shall install sheeting having a section modulus not less than that shown in the contract documents.

Any material which stops the driving of sheeting or soldier piles within a depth of 10 feet from the ground surface at the time of driving shall be removed by the Contractor. Payment for removal of such material and any backfill required to fill the resulting void will be made under the appropriate pay items. If very compact material or boulders prevent the progression of the sheeting to the design tip elevation at a greater depth, the Contractor shall notify the Engineer.

The Contractor shall perform work in a manner that causes no subsidence of the surrounding ground surface. If subsidence should occur, the Contractor shall cease work and provide a written plan to prevent subsidence for approval by the Engineer. The Contractor shall repair all damage that resulted from the subsidence at no additional cost to the City.

552.5 MEASUREMENT. The quantity of sheeting will be in square feet, measured to the nearest square foot. The upper payment line will be at the intersection of the sheeting and the ground surface at the time of commencing work or at the completion of backfilling operations, whichever is higher. The lower payment line will be the minimum embedment depth shown in the contract documents.

The horizontal length will be measured along a projection of the sheeting on a plane parallel to and midway between the front and rear face of the sheeting wall.

552.6 PRICE TO COVER. The unit price bid for this work shall include the cost of furnishing all labor, materials, plant, equipment, insurance, and necessary incidentals necessary to satisfactorily complete the work, including driving equipment, waling, and bracing. The cost of maintaining the excavated area free from earth, water, ice, and snow will be included in the price bid for the appropriate excavation item.

Payment will be made under:

Item No.	Item	Pay Unit
RHCR 552	Permanent Steel Sheeting	SF

END OF SECTION

I - PAGES

NEW SECTIONS

NOTICE

THE PAGES CONTAINED HEREIN ARE NEW SECTIONS OF WORK THAT APPLY AND ARE MADE PART OF THE CONTRACT.
UNLESS OTHERWISE SPECIFIED, ALL SECTIONS, SUBSECTIONS, ARTICLES, AND SUBARTICLES AS REFERRED TO HEREIN (I-PAGES) ARE TO THE NEW YORK CITY DEPARTMENT OF TRANSPORTATION'S (NYCDOT'S) STANDARD HIGHWAY SPECIFICATIONS, DATED MAY 16, 2022, AS CURRENTLY AMENDMENTS BY THE R-PAGES.

[NO TEXT ON TH PAGE]

TABLE OF CONTENTS

SECTION 2.29 – WARM MIX TECHNOLOGIES 1

SECTION 3.09 – ASPHALT PAVING MIXTURES (BALANCED MIX DESIGN) 2

SECTION 4.11 – EXCAVATION AND FILLING 8

SECTION 6.04 – GRANITE PAVERS ON CONCRETE BASE 21

SECTION 6.94 DCB – DRAIN CATCH BASINS 26

SECTION 7.07 A - REMOVING EXISTING STEEL BOLLARDS 29

SECTION 7.13 – MAINTENANCE OF SITE 30

SECTION 7.35 - PEDESTRIAN CHANNELIZER 38

SECTION 7.55 SS – STAINLESS STEEL RAILING 40

SECTION 7.70 TPR - TEMPORARY PEDESTRIAN RAMP 43

SECTION RHCR 8.01 HANDLING, TRANSPORTING, AND DISPOSAL OF POTENTIAL AND IDENTIFIED CONTAMINATED AND HAZARDOUS MATERIALS 45

SECTION RHCR 8.01 C1 HANDLING, TRANSPORTING AND DISPOSAL OF NON-HAZARDOUS CONTAMINATED SOIL 49

SECTION RHCR 8.01 C2 SAMPLING AND TESTING OF NON-HAZARDOUS CONTAMINATED/POTENTIALLY HAZARDOUS SOIL FOR DISPOSAL PURPOSES 56

SECTION RHCR 8.01 H HANDLING, TRANSPORTING AND DISPOSAL OF HAZARDOUS SOIL 59

SECTION RHCR 8.01 S HEALTH AND SAFETY 65

RHCR 8.01 W1 REMOVAL, TREATMENT, AND DISCHARGE/DISPOSAL OF CONTAMINATED WATER 70

RHCR 8.01 W2 SAMPLING AND TESTING OF CONTAMINATED WATER 76

SECTION 9.13 HD HIGH-DENSITY POLYETHYLENE DRAINAGE PIPE 78

[NO TEXT ON TH PAGE]

SECTION 2.29 – WARM MIX TECHNOLOGIES

2.29.1. This section describes warm mix technologies for use in the construction of Performance Based Asphalt Paving Mixtures. Warm mix technologies are systems that enable the production of asphalt pavements at lower temperatures than traditional Hot Mix Asphalt (HMA), or are used to enhance compaction of HMA.

2.29.2. GENERAL REQUIREMENTS

Warm Mix technologies must be on one of the current NYSDOT Approved Lists for Warm Mix Asphalt Technologies (lists 712-1010, 712-1020, or 712-1030).

Use of warm mix additives shall be used in accordance with the manufacturer's published recommendations.

2.29.3. PLANT AND EQUIPMENT

All plant and equipment for warm mix technologies must be installed in accordance with the manufacturer's recommendations. Prior to using the warm mix technologies, the plant and equipment installation shall be approved in writing by a manufacturer's technical representative and the Director of QA.

All references to **Section 3.01** are hereby replaced with the following new **Section 3.09**.

SECTION 3.09 – ASPHALT PAVING MIXTURES (BALANCED MIX DESIGN)

3.09.1. INTENT.

This section describes Balanced Mix Design Asphalt Paving Mixtures.

3.09.2. CLASSES AND TYPES.

(A) Balanced Mix Design Asphalt Paving Mixtures must be of the following kinds:

- Balanced Mix Design Binder Mixture, 1" Nominal Maximum Aggregate Size (NMAS)
- Balanced Mix Design Top Mixture, 1/2" NMAS

(B) Kind of mixture must be as specified.

3.09.3. MATERIAL.

Balanced Mix Design Asphalt Paving Mixtures will be composed of virgin aggregate, virgin asphaltic cement, rejuvenating agent, warm mix technologies and / or recycled asphalt pavement (RAP).

(A) GENERAL.

The Contractor must obtain Department approval of all material sources before any mixture is mixed at any asphalt plants. Approval of sources for the supply of the coarse and fine mineral aggregates must be obtained from the NYCDDC Director of Quality Assurance (QA).

All laboratories, asphalt mix designs, and asphalt plants proposed by the Contractor must be subject to approval by QA and in accordance with their "Mix Design, Laboratory and Plant Acceptance Protocol". Copies of this protocol may be obtained at the pre-construction meeting or from the Engineer. The minimum requirement for approval of the proposed plant is that it must be on the current New York State Department of Transportation (NYSDOT) approved list.

(B) VIRGIN AGGREGATES.

Virgin aggregates must meet the requirements of Section 2.02.

(C) VIRGIN ASPHALTIC CEMENT.

Virgin asphaltic cement must meet the requirements of Section 2.05.

(D) REJUVENATING AGENT.

Rejuvenating agent must meet the requirements of Section 2.28.

(E) WARM MIX TECHNOLOGIES.

Warm mix technologies must meet the requirements of Section 2.29.

(F) RECYCLED ASPHALT PAVEMENT.

Recycled asphalt pavement must meet the requirements of section 2.30.

3.09.4. CONTRACTOR'S MIX DESIGN.

(A) MIX DESIGN.

The Contractor must formulate and submit mix designs for Balanced Mix Design Asphalt Paving Mixtures, and submit them in writing to the Engineer. The mix designs must be submitted on forms in accordance with the QA "Mix Design, Laboratory and Plant Acceptance Protocol". Mix designs must be prepared and submitted to the Engineer for approval a minimum of four (4) weeks prior to the scheduled start of paving work.

The approved formula must not be changed without the written permission of QA.

The contractor must develop a Job Mix Formula (JMF) through a four-step process consisting of:

1) selecting appropriate materials,
2) developing a design aggregate structure,
3) evaluating the resultant mixture's conformance to specified Performance Requirements, and
4) determining the acceptable range of total mixture asphalt content.

Mix designs must be 4-point designs with constant aggregate proportions, constant RAP proportions, and varied amounts of virgin asphaltic cement and/or rejuvenating agent. The design points must be selected so that the total mixture asphalt content ($\%AC_{mix}$) is evenly spaced. The overall range of $\%AC_{mix}$ covered by the design points must be large enough that they contain one failing rutting test (Hamburg or IDT) and one failing cracking test (FI or CT Index) or have an overall range of 2% $\%AC_{mix}$, whichever is smaller.

$\%AC_{mix}$ as calculated and shown in the mix design will include the rejuvenator and all of the RAP AC.

Subject to approval by the Director of QA, a mix design may be resubmitted for renewal without performing a new 4-point design, provided the following requirements are met:

i. The mix design has been in continuous production (no gaps greater than 6 months) since its initial approval;
ii. The plant layout has not been modified (including replacement of major equipment);
iii. All periodic Performance Testing per Subsection 3.09.4.(C) is within tolerance, and did not require any retests.
iv. The performance of the mix design is acceptable to the Director of QA.

The mix design procedure must be as follows:

i. Identify all material sources.
ii. Determine gradation and asphalt content of RAP stockpiles per **Section 2.30.4**.
iii. Determine aggregate bulk specific gravity (G_{sb}) and apparent specific gravity (G_{sa}) of all virgin and RAP aggregates per ASTM C127 and C128.
iv. Select grade of virgin asphalt binder and/or rejuvenating agent to be used.
v. Select blend of virgin aggregates RAP, virgin asphalt cement, and rejuvenator to meet the requirements of Subsection 3.09.4.(B), Control Requirements.
vi. Select the AC content for the trial batches.
vii. Determine mixing and compaction temperatures, per NYSDOT MM5.16, Table 7.
viii. Prepare samples in the laboratory for testing per ASTM D6925, with the following supplemental requirements:
    a. Samples for Performance Testing must be prepared per 3.09.4.(C) below.
ix. Perform tests per Subsection 3.09.4.(C) and Subsection 3.09.4.(D) to verify mix design performance and establish production tolerances.

x. Submit acceptable mix design to the Director of QA for approval.

(B) CONTROL REQUIREMENTS.

1. AGGREGATE GRADATION. The JMF submitted must meet all of the control points in NYSDOT Materials Method 5.16, Table 1. The JMF must show the target design gradation at the sieve sizes shown in NYSDOT MP 401 Table 1. All aggregate gradation percentages are based on the total dry weight of the aggregate.

2. TARGET DESIGN ASPHALT CONTENT. The JMF submitted must list the target design total mixture asphalt content $\%AC_{mix}$, the minimum design total mixture asphalt content $\%AC_{min}$, and the maximum total mixture asphalt content $\%AC_{max}$.

The target design total mixture asphalt content $\%AC_{mix}$ will be selected as follows:

i. A plot will be generated for each of the performance tests, with $\%AC_{mix}$ on the X axis and the performance value on the Y axis, and a linear trendline generated.
ii. The range of $\%AC_{mix}$ that produces passing performance tests (where the trendline meets the performance criteria) will be identified for each performance test. The $\%AC_{mix}$ passing performance range must be rounded to the 0.1% in the direction that produces the most conservative result (a smaller range of acceptable $\%AC_{mix}$).
iii. The ranges for each of the performance tests will be overlayed, and a combined range that produces passing results for all tests will be determined.
iv. The middle of this combined range will be the target $\%AC_{mix}$.

3. TARGET VOLUMETRIC PROPERTIES. The JMF submitted must show the following target volumetric properties:

i. Voids in Mineral Aggerate (VMA)
ii. Voids Filled with Bitumen (VFB).

These properties must be calculated as described in Subsection 3.09.4.(D). If the target design asphalt content $\%AC_{mix}$ is interpolated between trial values, the JMF volumetric properties must be similarly interpolated.

(C) PERFORMANCE REQUIREMENTS

1. PERFORMANCE TESTING CRITERIA. The mix must be designed to meet the performance testing criteria in Table 3.09-1.

TABLE 3.09-I - PERFORMANCE TESTING CRITERIA

Test Methods	Criteria	Min. Design Value	Max. COV[1]
RUTTING TESTS			
AASHTO T324 Hamburg Wheel-Track Test	Rut Depth	12.5 mm	N/A
ASTM D6931 Indirect Tensile Strength (IDT) Test	IDT Strength	30 psi	≤15
CRACKING TESTS			
AASHTO T 393 SCB Flexibility Index (FI) Test	Flexibility Index	8	≤40
ASTM D8225 CT Index Test	CT Index	135	≤25

Note 1: COV = Coefficient of Variation, defined per ASTM E177.

Specimens must be batched and compacted per NYSDOT MM5.16 Section VI.C, and Table 3.09-II below.

TABLE 3.09-II - SUMMARY OF TESTING CRITERIA FOR BALANCED MIX ASPHALT

		Hamburg Wheel-Track	IDT	CT Index	SCB FI
Test Location		Laboratory	Plant	Plant	Plant
Test Method		AASHTO T324	ASTM D6931 NCHRP 9-33 Report	ASTM D8225	AASHTO T393
No. of Samples		Initial: 2 wheel tests (4 plugs) Periodic verification: 1 wheel test (2 plugs)	3	3	3
Cycles		20,000	N/A	N/A	N/A
Load Rate (mm/min)		N/A	50±5	50±2	50±2
Height (mm)		62±2	95±5	½" NMAS = 62±1 1" NMAS = 95±1	50±1
Notch Dimensions (mm)		N/A	N/A	N/A	<2.25 wide 15±1 deep
Aging	Lab mixed	2 hours loose mix volumetric Conditioning at Compaction Temperature			
	Plant mixed	Reheat loose mix to Compaction Temperature and Compact Specimens			
HMA Compaction Temp, °C		V Grade = 149°C ± 3°C E Grade = 163°C ± 3°C			
WMA Compaction Temp, °C		V Grade = 132°C ± 3°C E Grade = 146°C ± 3°C			
Air Voids, %		7 ± 0.5	7 ± 0.5	7 ± 0.5	7 ± 0.5
Test Temp, °C		45°C ± 1.0	44°C ± 1.0	25°C ± 1.0	25°C ± 1.0
Water Bath Conditioning		50°C for 45 min.	44°C for 2 hrs ± 10 min.	25°C for 2 hrs ± 10 min.	25°C for 2 hrs ± 10 min

(D) PRODUCTION TOLERANCES

The tolerances in Table 3.09-III are applied to the JMF in the approved mix design.

TABLE 3.09-III - VOLUMETRICS PRODUCTION TOLERANCES

Test	Tolerance applied to the JMF in the approved mix design
Aggregate Gradation, ASTM D5444 *(Note 1)*	NYSDOT MP 401 Table 1, except the Control Points in NYSDOT MM 5.16 Table 1 must not be exceeded.
Asphalt $\%AC_{mix}$, ASTM D6307 *(Note 1)*	±0.1% applied to the JMF
Air voids P_a, ASTM D3203 *(Notes 2, 3)*	4.0% ±1.0%
VMA, ASTM D6995 *(Notes 2, 3)*	NYSDOT MP 401 Table 7
VFB *(Notes 2, 3, 4)*	NYSDOT MP 401 Table 7

Note 1: Determined by batched weight for mix design tests.

Note 2: Samples must be prepared by Superpave Gyratory Compactor per ASTM D6825, compacted to N_{design} of 75 gyrations.

Note 3: Maximum (G_{mm}) and Bulk (G_{mb}) specific gravity samples used for these tests must meet the tolerances in NYSDOT MP 401, Table 5.

Note 4: VFB is calculated per Appendix 1 to NYSDOT MM 5.16.

3.09.5. ASPHALT PLANT REQUIREMENTS.

(A) QUALITY CONTROL.

1. DAILY QC LOT TESTING.

The asphalt plant must perform ongoing QC lot testing during production. Test reports must be kept of all QC test results. Test reports must include the technician's name and approval (signed and dated) by the plant's QC manager. The QC manager must review and approve test reports on a daily basis. If test reports are kept electronically, a scanned PDF of the signed test reports are acceptable; test reports stored solely in computer spreadsheets are not acceptable. The Quality Control sampling and testing called for in NYSDOT MP 401 Table 4 is required, except that references to the RME refer to the Director of QA.

2. PERIODIC PERFORMANCE TESTING.

The asphalt plant must perform periodic performance testing. Periodic performance testing will be required at the frequency shown in Table 3.09-IV, and after all plant shutdowns and major maintenance. Periodic performance testing must be per Subsection 3.09.4.(C). The plant may choose which of the cracking tests to perform for periodic performance testing, unless directed in advance by the Director of QA. The cracking test used for periodic testing may not be changed without prior written approval of the Director of QA. Results of all periodic performance testing must be submitted to the Director of QA for approval.

TABLE 3.09-IV
PERIODIC PERFORMANCE TESTING FREQUENCY

Mix Design RAP%	Periodic Testing Frequency		
	Cracking (SCB FI, ***or*** CT Index)	Rutting (IDT)	Rutting (Hamburg)
RAP% ≤ 40%	Weekly	Weekly	6 months
40% < RAP%	Every third day	Every third day	3 months

(B) QUALITY ASSURANCE SAMPLES.

In addition to the requirements of Section 5.07, when requested by the Director of QA, the Contractor must deliver to QA bagged asphalt and / or compacted asphalt samples (Superpave gyratory compactor samples) in sufficient quantity to perform the testing in Subsection 3.09.5.(A).

The Marshall flow and stability tests called for in Section 5.07.2 are replaced by the cracking test specified in Section 3.09.5.(A).2 above. (C) MAINTENANCE.

The asphalt plant must be maintained in proper working order. Plant scales must be checked quarterly, and adjusted if necessary. The Director of QA must be notified in writing two weeks prior to scale checks, scheduled plant shutdowns, scheduled major maintenance, and plant openings after shutdowns or major maintenance.

3.09.6. HANDLING, MEASURING, AND BATCHING MATERIALS.

(A) HEATING AND STORING INGREDIENTS

Virgin asphalt binder must be heated at the temperature recommended by the binder supplier in a manner that will avoid overheating and provide a continuous supply to the mixer at a uniform temperature.

(B) PROPORTIONING INGREDIENTS

Aggregate and RAP being mixed must be proportioned accurately by weight. Fluids must be proportioned by weight or volume. All scales and meters must be calibrated quarterly and maintained accurate within 0.5%.

(C) MIXING INGREDIENTS

The mixer must be capable of producing a well-coated and homogeneous mixture at the specified temperature. The finished mixture must contain 95% minimum fully coated particles, in accordance with ASTM D2489. The plant must verify the 95% fully coated particles annually and as follows:

i. Whenever plant layout (including RAP collar placement) is altered or major maintenance is performed;
ii. Whenever feed rate is changed for drum plants;
iii. Whenever minimum mixture times are changed for batch plants.

(D) TEMPERATURE OF MIXTURE

Balanced Mix Design asphalt must be mixed and compacted within the temperature ranges shown on the approved mix design.

Unless an alternate range is approved by the Director of QA with the mix design:

1. HMA must be mixed and compacted within 250F and 325F, but all compaction must be completed before the mat temperature falls below 250F.
2. WMA must be mixed and compacted within the ranges recommended by the WMA technology provider, but all compaction must be completed before the mat temperature falls below 230F.

SECTION 4.11 – Excavation and Filling

4.11.1. INTENT. This section describes Excavation and Filling.

4.11.2. DESCRIPTION.

(A) The location, general character and essential details shall be as specified and as shown on the Contract Drawings.

(B) Earth Excavation shall include the removal and disposal of material of whatever nature encountered in the prosecution of the work, unless otherwise specified. Materials of whatever nature encountered shall be defined as including, but not be limited to, soil, stones, soft weathered rock that can be removed by mechanical means other than air hammer or drilling and blasting, and miscellaneous fill (excluding contaminated materials, debris and building demolition material consisting primarily of large wooden objects, plastic, asphalt shingles, metals, etc.) which is not classified as rock excavation or contaminated or hazardous materials that materially affect the cost of removal and disposal to the Contractor.

Earth excavation shall not include the cost of excavation and disposal of boulders or parts thereof more than one-half (1/2) cubic yard in volume (to be measured by multiplying the maximum cross section area by seven tenths (7/10) of the length of that which is to be removed) in open cuts, rock as defined in **Subsection 4.11.2.(C),** materials which must be removed and disposed of as contaminated or hazardous material, manmade objects or structures not shown on the Contract Drawings or indicated in the specifications, that could not reasonably have been anticipated by the Contractor, were not anticipated by the City, and which materially affect the cost of excavation and disposal to the Contractor. Excavation and disposal of said materials will be paid for under other contract items where anticipated by the City or will be paid for as "Extra Work", under Article 26 of the Standard Construction Contract, where the City deems the Contractor could not have reasonably anticipated the existence of such materials that significantly affects the Contractor's costs of removal and disposal.

The dismantling and removal of the existing street lights, traffic signals and fire alarms will be done by the various departments having jurisdiction, except as otherwise provided. The existing foundations for these facilities shall be removed by the Contractor to a plane two (2') feet below subgrade and such removal will be measured for payment under Earth Excavation.

(C) Rock Excavation shall include only the removal and disposal of unbroken ledge rock in its original formation which cannot be removed by ditching machines, ripper, rock plow, backhoe, or other mechanical means and which can only be removed by air hammers or by blasting, drilling or plug and feather to ensure the prompt and proper prosecution of the work. It is not intended to cover softer rock formations encountered which can be removed by mechanical means other than air hammer or drilling and blasting.

(D) Grade shall mean the plane or planes through the tops of both curb lines.

(E) Rock subgrade for roadway area shall mean a plane two (2') feet below and parallel to grade and two (2') feet wider on each side than the roadway. Rock subgrade for sidewalk area shall mean a plane one (1') foot below and parallel to grade. Rock subgrade for structures shall be to the depths required for the cradle and foundation of the structure.

(F) Filling shall include the furnishing, re-use, placement and compaction of approved material required. Filling shall be by Place Measurement or Vehicle Measurement, as specified.

(G) Excavation in earth for the footings of structures shall be carefully conducted to approach the neat lines as closely as possible without disturbing the underlying soil and hand excavation shall be used within the last twelve (12") inches. Under no circumstances shall any backfilling material be placed upon surfaces to be used as foundation for footings. Where, in the opinion of the Engineer, the slope of existing rock surfaces requires it, rock shall be suitably benched to give full and proper bearing to concrete in accordance with the directions of the Engineer. Rock surfaces shall be cleaned and if necessary washed before concrete is poured.

(H) All excavation and backfilling required for the installation of sewers (storm, sanitary, and combined), highway drains, and water wains shall be done under the appropriately scheduled items in accordance with the requirements of the NYC DEP Standard Sewer and Water Main Specifications.

4.11.3. MATERIALS FOR FILL AND BACKFILL.

(A) GENERAL

All material for fill or backfill shall have an optimum moisture content as determined by the Standard Proctor Test conducted in accordance with AASHTO T-99 Method. Gradation must be tested in accordance with ASTM C136.

All material for fill or backfill shall be free from frost at the time of placement.

Miscellaneous fill material removed from trenches and excavations shall not be considered as acceptable backfill material unless found to be in compliance with these specifications and approved in writing by the Engineer. The project site subsurface conditions may consist partially of variable thickness layers of unsuitable material. This material may not be considered to be acceptable backfill material as described herein, or as determined by the Engineer.

(B) FILL AND BACKFILL

Filling and Backfilling materials whose composition is inorganic soil, blasted or broken rock and similar materials of natural or man-made origin, including mixtures thereof, shall be considered suitable materials provided it is free of shale or other soft, poor durability particles.

Glass or Recycled Porcelain Aggregate (RPA) from recycling facilities that meets the requirements of **Subsection 4.11.3.(E)** for Glass and **Subsection 4.11.3.(F)** for RPA shall be considered suitable material for mixing with fill provided the Contractor maintains the gradations specified herein. However, glass shall not be placed in contact with synthetic liners, geogrids, geotextiles or other geosynthetics.

Glass and/or RPA incorporated into fill shall be thoroughly mixed with other suitable material so that glass, RPA or combination of both constitutes no more than 30 percent by volume anywhere in the fill as visually determined by the Engineer.

The material within the top one (1') feet of subgrade shall have the following gradation:

Sieve Size	Passing Percent By Weight
4 Inch	100
1/4 Inch	30 to 75
No. 40	5 to 40
No. 200	0 to 10

Stone in filling shall not exceed the following maximum dimensions:

More than thirteen (13') feet below grade . . . . . Unlimited
More than four (4') feet and less than thirteen (13') feet below grade . . . . . 2'-0"
More than one (1') feet and less than four (4') feet below grade . . . . . 1'-0"
Within one (1') feet of grade . . . . . 0'-4"
Within two (2') feet of structures . . . . . 1'-0"
In embankment slopes beyond street lines . . . . . 1'-0"
Within five (5') feet of the center line of existing or proposed sewers, water mains and their appurtenances . . . . . 1'-0"

The Contractor may use, as fill, that portion of the excavated material conforming to these specifications. However, all materials used for fill shall be free from organic material and other unsuitable material. Material not characterized as hazardous soil or non-hazardous contaminated soil may be reused on-site beneath the site cap without prior approval by the Engineer in connection with the environmental requirements. If the Contractor anticipates reuse of site material as part of the Site cap, the Contractor shall notify the Engineer of the area with a minimum two (2) weeks' notice prior to reuse to allow for review by Engineer of sampling data and environmental reuse requirements in

RHCR Section RHCR 8.01 C1.
Excavated materials not complying with the above specifications shall be considered unsuitable for fill and shall be removed from the job site to an approved dump.

(C) SELECT GRANULAR FILL

Select Granular Fill shall be a natural sand, well graded crushed stone or approved clean earth of low silt and clay content, free from bricks, blocks, excavated pavement materials and debris, stumps, roots and other organic matter, as well as ashes, oil and other perishable or foreign material. All materials furnished under this item shall have no particles greater than 1/4 inch in maximum dimension for use in trenches and shall have the following gradation:

Sieve Size	Percent Passing by Weight
1/4”	100
No. 40	0-50
No. 200	0-8

(D) PROCESSED FILL

If approved in writing by the Engineer, excavated material determined to be unsuitable for fill may be processed (i.e. screened and/or crushed) to produce select granular fill material or fill material. Such processed materials for backfill must be in compliance with the material specifications herein for either Select Granular Fill or for Fill, as required. No separate or additional payment will be made for the cost of all labor, materials, plant, equipment, samples, tests and insurance necessary or required to perform this processing work. Payment for the costs of all labor, material, equipment and insurance necessary and required to furnish and deliver, and to place, compact, sample and test these processed acceptable backfill materials shall be in accordance with **Subsection 4.11.6(C)**.
(Excavated material that is hand groomed and/or groomed with the use of excavating equipment of bricks, blocks, pavement materials, debris, stumps, roots, stones, boulders, timber, wood, etc., to render the excavated material acceptable for backfill, whether ordered by the Engineer or at the Contractor’s own discretion, shall not be considered as processed material but shall be considered as approved excavated suitable material. No separate or additional payment will be made for the use of this groomed excavated material as backfill, the cost of all labor and material shall be deemed included in the prices bid for all contract items of work.)

(E) GLASS

Glass shall be crushed to a maximum particle size of 3/8 inch.
Glass may contain up to a maximum of five (5%) percent by volume of china, ceramics, plate glass products, paper, plastics or other deleterious materials. The material shall be subject to visual inspection by the Engineer or the Engineer’s representative, and may be rejected based on this inspection. In case of rejection, the inspection must be documented in writing by the Engineer who shall indicate the basis of rejection.

(F) RECYCLED PORCELAIN AGGREGATE (RPA)

All porcelain to be used as RPA shall be crushed by a New York City Department of Environmental Protection (NYCDEP) approved recycling facility to a maximum particle size of 3/8 inch and graded to meet the gradation specified above for use in either fill, backfill or select fill, as may be required. RPA from any other source will not be permitted. The NYCDEP approved recycling facility will also certify that the RPA being furnished is free from organic material and other unsuitable material.
Should the Contractor desire to use RPA in fill or backfill material, the NYCDEP BEPA Sustainability Unit (Tel. No. 718-595-5522) shall be contacted to determine the availability of RPA and from which recycling facility it can be obtained.
The Contractor shall be required to make arrangement with the recycling plant, at least two (2) weeks in advance of when the material is needed, to schedule the time, date and quantity available for pickup. The Contractor shall be required to furnish the recycling facility with a complete list of trucks involved in transporting the material, which shall include the name of the registered owner (Contractor), Consumer Affairs or DOS Permit numbers, body license plate number, and truck volume.

This information must be supplied to the facility prior to the start of picking up the RPA.
Weight ticket receipt slips given by the recycling facility to each truck driver picking up RPA shall be collected by the Contractor and given to the Engineer upon delivering fill or backfill material to the site that contains RPA, and the Contractor agrees and warrants that in obtaining the RPA that such material has originated only from a NYCDEP approved recycling plant and it has not been mixed with porcelain material from any other source.
The Contractor shall be required to transport said material from the approved recycling facility to the Contractor's yard for storage and mixing with the Contractor's fill material; however, there is not guarantee that the material will be available.
The Contractor is advised that there is no guarantee that RPA will in fact be available for use from a NYCDEP approved recycling plant and shall make no claim against the City for loss of anticipated profits should the material not be available upon request by the Contractor.
All excess RPA not used in the fill or backfill shall remain the property of the NYCDDC Contractor.
The Contractor must comply with all rules and regulations of the NYCDOT and the Department of Environmental Protections governing the use of RPA in its fill and backfill material.

4.11.4. EARTH EXCAVATION METHODS.

(A) Excavation for streets shall:

(1) be made and maintained to roadway crowns, sidewalk area slopes and side slopes specified until the entire work is accepted;

(2) be made below grade to exposed rock, when soundings indicate the existence of rock between grade and rock subgrade;

(3) include the removal, as directed, of unsatisfactory material below grade;

(4) include the cutting of the side slopes in earth excavation to a slope of one and one-half (1-1/2) horizontal to one (1) vertical or such other approved slope as may be rendered necessary by local conditions, and no measurement beyond such approved limits of slope will be made or allowed for payment.

(B) Excavation for walls and other structures shall be made to the dimensions specified and shall be done as follows.

(1) GENERAL. Trenches and pits shall be excavated to the depths required for cradle and foundation of structures. All trenches in earth shall be excavated with vertical sides, and shall be supported by close sheeting, properly braced. Sheeting and bracing shall extend from at least the existing surface of the ground to an adequate depth below the subgrade of the structure, except where otherwise specified on the Contract Drawings, or permitted by the Engineer in writing. Sheeting must be driven below the area of the pilot cut. Driving of sheeting above the pilot cut is subject to the directions of the Engineer.

Pilot cuts for trenches shall not exceed five (5') feet at any time. The Engineer may reduce the depth of the pilot cut should soil and subsurface conditions warrant such action.

The Engineer may direct the Contractor to use other types of equipment, and to revise the procedure during the excavation of the pilot trench and the driving of the sheeting should it be found necessary to do so.
In accordance with 29 CFR 1926.650, a trench is a narrow excavation (in relation to its length) made below the surface of the ground. In general, the depth is greater than the width, but the width of a trench (measured at the bottom) is not greater than fifteen (15') feet. If forms or other structures are installed or constructed in an excavation to reduce

the dimension measured from the forms or structure to the side of the excavation to fifteen (15') feet or less, the excavation is also considered to be a trench. The Contractor shall provide protection from collapse and cave-in for any employee who enters a trench or other excavation in accordance with the requirements of 29 CFR 1926 Subpart P, unless the excavation is less than five (5') feet in depth and examination of the ground by the Contractor's "competent person" provides no indication of a potential cave-in. The Contractor shall include the proposed procedures to meet the excavation safety requirements in the Contractor's Project Safety and Health Plan. Trenching and excavation work shall be carried out under the supervision of the Contractor's "competent person." The Contractor shall provide ladders or ramps for access and egress within twenty-five (25') feet of an employee work area if a trench is four (4') feet or deeper. The Contractor shall keep traffic, equipment and materials at least two (2') feet away from the edge of any trench or excavation, or use retaining devices. When mobile equipment is operated near an excavation or must approach the edge of an excavation, either the operator must have a clear and direct view of the edge of the excavation; or a warning system of barricades, hand signals or mechanical signals shall be used. Workers shall not be permitted under loads that are being handled by lifting or digging equipment.

Trenches under five (5') feet in depth need not be sheeted and braced, except where one of the following conditions exist: the trenches are in close proximity to existing structures or subsurface structures; where the Engineer, in writing, specifically prohibits the use of a non-sheeted trench; or where examination of the ground by a "competent person" provides indication of a potential cave-in, and trenches need to be sheeted and braced.

For the purposes of open excavations and trenches, the term "competent person" shall be defined as a person designated by the Contractor, in writing, who has had specific training in, and is knowledgeable about, soil analysis, the use of protective systems and the requirements of 29 CFR 1926 Subpart P, who is capable of identifying existing and predictable hazards in the surroundings, or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them.

Where shown, specified or permitted in writing by the Engineer, the sides of the trenches shall be sloped to elevations approved by the Engineer. Side slopes must be stable and shall be, in the dry, at least one and one half (1-1/2) vertical on one (1) horizontal.

The subgrade of trenches shall be constructed neat and to the grades as shown in the Contract Documents, and as directed by the Engineer.

Upon completion of the trenches and excavations and prior to placement of structures, the Contractor shall take in-place soil density tests of the subgrade (the number and locations of these tests shall be as directed by the Engineer), and shall compact the subgrade, as directed by the Engineer, to a minimum of ninety five (95) percent of Standard Proctor Maximum Dry Density.

(2) ADDITIONAL REQUIREMENTS FOR TRENCHES

(a) Where structures are to be supported on piles and the Contractor deems it necessary to widen the trench beyond the maximum widths herein specified to permit the driving of such piles, the Contractor shall apply to the Engineer in writing for permission to widen the trench.

(b) Any widening or enlargement of excavation permitted in writing by the Engineer upon the request of the Contractor to perform the work as specified in the Contract Documents and/or to expedite construction operations, will not be measured for any separate or additional payment, but the costs thereof shall be deemed included in the prices bid for all contract items of work.

(c) In rock trenches the Contractor may, with the written permission of the

Engineer, omit the use of side forms. No rock shall project inside the minimum width vertical rock cut lines herein specified.

(d) Where the Contractor elects to cut the trench in rock by means that will result in overbreakage, rather than resorting to means which will insure adherence to the maximum allowable width of trench, the spaces between the edges of the external neat line of the poured-in-place structure and the sides of the rock cut with concrete shall be filled in from subgrade of trench to a minimum height of two (2') feet above the top of the footing.

(e) If the Contractor elects to carry the excavation in earth below the required subgrade of the trench, the Contractor shall backfill the trench to the required subgrade with either properly compacted Stone Ballast or with concrete, as directed by the Engineer. If the Contractor elects to carry the excavation in rock below the required subgrade of the trench, the Contractor shall backfill the trench to the required subgrade with concrete or stone ballast as directed by the Engineer. No separate or additional payment shall be made for such backfilling where required, nor for any additional excavation and sheeting, the cost thereof shall be deemed included in the prices bid for all contract items of work.

(f) The construction of adjacent sewers and/or water mains in the same trench shall be in accordance with the requirements of Section 4.07 of the NYC Department of Design and Construction, Division of Infrastructure, Standard Sewer Specifications and/or Standard Water Specifications.

(3) LENGTH OF TRENCH EXCAVATION. The maximum length of trench excavation in roadway any time shall be as stipulated for the maintenance and protection of traffic.

Unless otherwise specified in the Contract Documents or ordered in writing by the Engineer, all trenches in rock shall be excavated to its full depth for a minimum distance of twenty (20') feet in advance of the length of structure permitted to be laid; however, the total length of trench shall not be less than fifty (50') feet. The only exception to this is at its upper end or ends, where rock shall be excavated to its full depth to a distance of not less than five (5') feet beyond the sewer to be built.

(4) EXPOSED STRUCTURES TO BE PROTECTED. All exposed structures shall be carefully protected from the effects of blasts. Any damage done to such structures shall be promptly repaired by the Contractor at the Contractor's own expense.

(5) DISPOSAL OF WATER FROM EXCAVATIONS. The Contractor shall at all times during the progress of the work keep the trenches and excavations free from water. The water from the trenches and excavations shall be disposed of in such a manner as will not cause injury to the public health, nor to public or private property, nor to the work completed or in progress, nor to the surface of the streets, nor cause any interference with the use of the same by the public. All sewers used for disposal of water from the trenches and excavation during construction shall be acceptably cleaned.

When in order to comply with the above, it is deemed necessary to widen the trench beyond the allowable maximum width, to permit the installation of well-points, the Contractor shall, as directed by the Engineer, provide either pipe of additional strength or concrete encasement at no additional cost to the City.

The Contractor shall, with the Contractor's own equipment, provide dewatering where required at no additional cost to the City. The cost for all labor, equipment, materials, etc. required to dispose of water from the trenches shall be deemed included in the prices bid for all items of the Contract.

All dewatering and discharge pipes and hoses which cross traveled roadways shall be placed in such a manner to eliminate any disruption of traffic flow. If so ordered by the Engineer, the Contractor shall place the pipes and hoses in shallow trenches which will

then be plated over. All header pipe shall be buried below existing roadway grade at driveways to maintain access to driveways.

All plates shall be firmly secured to eliminate any possible shift or movement.

All pumps used in the dewatering operation shall be electric and shall be powered directly from a Con Edison drop, unless otherwise unavailable.

Dewatering by means of well points or deep wells will not be allowed in the Boroughs of Brooklyn or Queens where the rate of pumping exceeds forty five (45) gallons per minute unless the appropriate permit has been secured from the New York State Department of Environmental Conservation.

Where the subgrade of the trench cannot be maintained in a dry condition, except in locations where the structures are on piles, the Contractor shall excavate the trench to an additional depth of six (6") inches below the subgrade of the sewer and backfill the trench to the subgrade of the sewer with stone ballast.

The cost for this additional excavation, sheeting, installation of stone ballast, labor, materials, plant, equipment and insurance required or necessary to complete this work shall be deemed included in the prices bid for the respective sewer or manhole items.

(C) Approved sheeting and bracing shall be used where necessary to support sides of excavation, to: prevent damage to subsurface structures and adjacent buildings; safeguard persons and property; minimize inconvenience to traffic and the public; protect the structure to be installed; and, provide suitable and safe working conditions. Except as otherwise provided, deviations from the above will be permitted only where, in the judgment of the Engineer, such exception will not result in any of the hazards described above.

In cases where sheeting and bracing will not adequately protect adjacent structures from damage and settlement, the Contractor will be required to use such methods as are necessary to safely support and maintain adjacent and abutting property and structures and to maintain the work safe to life, limb and property.

All sheeting and bracing systems that the Contractor elects to use or that are ordered to use by the Engineer or the Department shall comply with the requirements of **Section 40.05, "SHEETING AND BRACING**," of the NYC Department of Environmental Protection, Bureau of Water and Sewer Operations, Standard Sewer and Water Main Specifications, and must receive the approvals stated therein.

Unless otherwise specified in the Contract Drawings or these Specifications or specifically permitted in writing by the Engineer, the Contractor shall be required to withdraw and remove all sheeting and bracing simultaneously with the backfilling of trenches and excavations.

(D) When directed, soundings shall be made at intervals of about ten (10') feet to determine the existence of rock between grade and rock subgrade.

(E) When boulders, masonry, concrete, loose fragments of rock, tree stumps or other material are removed by blasting, all blasting operations shall be conducted in strict accordance with the City ordinances and regulations relative to rock blasting and the storage and use of explosives. No blasting shall be done within five (5') feet of water mains, sewers or other structures.

(F) Excavation for the purpose of removing boulders, loose fragments of rock, tree stumps, roots and unsatisfactory material shall be backfilled with material complying with the specifications for Filling.

(G) Unless otherwise permitted, all earth excavation which is suitable and needed for fill shall be used within the contract limits.

4.11.5. ROCK EXCAVATION METHODS. When rock surfaces in streets, trenches or other excavations are uncovered, the Engineer shall be notified to provide the opportunity to make necessary measurements. Rock excavated before such measurements are made will not be paid for.

(A) Rock Excavation for Streets shall:

(1) be made to rock subgrade, when specified;

(2) be made and maintained to side planes specified until the entire work is accepted;

(3) be made in sections not less than fifty (50') feet in length, unless otherwise

permitted.

(B) Rock Excavation for walls and other structures shall be made to the dimensions specified.

In rock trenches the Contractor may, with the written permission of the Engineer, omit the use of side forms. No rock shall project inside the minimum width vertical rock cut lines herein specified.
If the Contractor elects to carry the excavation in rock below the required subgrade of the trench, the Contractor shall backfill the trench to the required subgrade with either concrete or properly compacted stone ballast, as directed by the Engineer. No separate or additional payment shall be made for such backfilling where required, nor for any additional excavation and sheeting, the cost thereof shall be deemed included in the prices bid for all contract items of work.
In addition, the filling of voids left by the removal of ledge rock from within the limits of rock excavation payment limits shall be done in accordance with the requirements of this **Subsection 4.11.6**.
Any widening or enlargement of excavation permitted in writing by the Engineer upon the request of the Contractor to perform the work as specified in the Contract Documents and/or to expedite construction operations, will not be measured for any separate or additional payment, but the costs thereof shall be deemed included in the prices bid for all contract items of work.

(C) No blasting will be permitted unless otherwise specified. The Contractor shall use line drilling or other acceptable methods to excavate rock. But if blasting is permitted, blasting operations shall be conducted in strict accordance with The City ordinances and regulations relative to rock blasting, the storage and use of explosives and prevention of silicosis. Any rock excavation within five (5') feet of a water main less than thirty-six (36") inches in diameter, and within ten (10') feet of a water main thirty-six (36") inches or more in diameter, shall be done with very light charges of explosives, or if directed, without blasting, and the utmost care shall be used to avoid breaking or disturbing the main. No blasting shall be done within five (5') feet of water mains, sewers or other structures except by written permission of the Engineer.

4.11.6. BACKFILLING METHODS.

(A) BACKFILLING AROUND STRUCTURES

Unless otherwise specified or directed, all trenches and excavations shall be backfilled immediately after the structures are built and inspected, and permission to backfill has been granted by the Engineer.
All backfill shall be carefully deposited and spread by approved methods.
Backfill shall proceed simultaneously with the withdrawal of sheeting. Withdrawal of sheeting below levels previously backfilled and compacted is prohibited.
The use of backhoe buckets for the compaction of backfill material in all trenches and excavations will not be permitted.

(1) Select Granular Fill. The Contractor shall use Select Granular Fill for backfilling trenches and excavations within any area less than two (2') feet wide in its least dimension (i.e. space between face of trench and outside face of cavities behind sheeting, filling of voids left by removal of boulders beyond the limits of sheeted trench, etc.) and within eighteen (18") inches around all underground facilities (i.e. conduit, cable, etc.).
Select granular fill shall be deposited and spread by approved methods in uniform horizontal layers not exceeding twelve (12") inches in depth and each layer shall be thoroughly compacted to the satisfaction of the Engineer, before a successive layer is deposited. A minimum of 95 percent of Standard Proctor Maximum Density will be required after compaction.

The cost of providing Select Granular Fill as specified hereinabove, together with all labor, materials, plant, equipment, samples, and tests necessary and required for delivering, placing, compacting and testing of Select Granular Fill, shall be deemed included in the prices bid for all respective items of work. No separate or additional payment shall be made for this work unless otherwise specified.

(2) All excavated material from within the project limits which is considered as suitable material under the requirements of **Subsection 4.11.3.(B)**, shall be utilized for backfill.

The cost for all labor, materials, plant, equipment, samples, and tests necessary and required for the hauling, storing, placing, compacting and testing of suitable excavated fill material all in accordance with the Specifications and as directed by the Engineer, shall be deemed included in the prices bid for all respective items of work. No separate or additional payment shall be made for this work unless otherwise specified.

(B) BACKFILLING AROUND SHEETING

When sheeting is withdrawn all cavities remaining in or adjoining the trench shall be filled and compacted. When sheeting is left in place all cavities behind such sheeting shall be filled as directed. All materials used for such backfill and the compaction of such materials shall be as specified herein.

(C) DEFICIENCY IN FILL MATERIAL

Unless otherwise shown on the plan, trenches shall be backfilled to the height of the surface of the ground as it existed at the commencement of the work. Should there be a deficiency of suitable material for that purpose, the Contractor shall furnish and place such additional material as may be required.

Payment for the cost of all labor, material, and equipment necessary and required to furnish and deliver these acceptable backfill materials, where a deficiency of acceptable backfill material occurs, shall be made as follows:

(1) For providing acceptable select granular fill (whether natural or processed) to satisfy the requirements of Section 4.11.6(A)(1), payment shall be deemed included in the prices bid for all contract items of work. No separate payment will be made for this work.

(2) For providing acceptable clean fill (whether natural or processed) to satisfy the requirements of Section 4.11.6(A)(3) to fill voids left by the removal of ledge rock, payment shall be made under the Contract Item – ROCK EXCAVATION.

(3) For providing acceptable clean fill (whether natural or processed) ordered by the Engineer, payment shall be made under the Contract Item – FILL.

(D) REMOVAL OF SURPLUS MATERIAL

As the trenches are backfilled, the Contractor shall remove all surplus material, and regrade and leave free, clear and in good order all roadways and sidewalks adjacent to the completed work and within fifty (50') feet of the end of the completed work. All surplus material or any part thereof shall be deposited, if required by the Engineer and at the Engineer's direction, on the streets and avenues within the limits of this Contract where they are below grade or contain depressions. Such fill shall be compacted to the required density (95% Standard Proctor Maximum Density) and in such a manner to leave the surfaces of the backfill even with the adjoining surfaces.

(E) TEMPORARY BULKHEADS

For retaining the backfilling only temporary bulkheads will be allowed over sewers, basin connections and drains. Such bulkheads shall not be of stone, and they shall be removed as the trenches are backfilled.

(F) SUBGRADE STRUCTURES NOT TO BE COVERED

Subgrade structures shall not be covered until the Engineer shall have inspected, measured and located the same and given permission to backfill the trenches over them.

(G) FILL

Fill shall be deposited, satisfactorily compacted, and maintained until the entire work is accepted,

between:

(1) the subgrade of proposed pavement and the surface of proposed curbs and sidewalks and the existing ground surface;

(2) the planes of the slopes of the embankment or the backs of retaining walls, as specified;

(3) rock subgrade and the finished surfaces of roadways and sidewalks.

Embankment slope shall be one and one-half (1-1/2) horizontal to one (1) vertical.

(H) The Contractor shall fill or backfill with material having a moisture content suitable for the proper compaction of that material. The Contractor shall be responsible for determining the proper limits as the work is progressed. Water added shall be thoroughly incorporated into the soil, and manipulation shall be provided whenever necessary to attain uniform moisture distribution to the soil. When the moisture content of a lift, that is about to be compacted, exceeds the required amount, compaction shall be deferred until the required moisture content is achieved or a more suitable material shall be used. Fill material shall be carefully deposited and spread by approved methods in uniform horizontal layers not exceeding twelve (12”) inches in depth, extending across the entire width of fill prior to compaction, and each layer being thoroughly compacted to the satisfaction of the Engineer before a successive layer is deposited. A minimum of 95 percent of Standard Proctor Maximum Density will be required after compaction.

No separate or additional payment be made for any costs associated with the achievement of optimum moisture content, including any additional excavation due to the removal of any layer not meeting the specified requirements and for the replacement of any layers with suitable material. Costs shall be deemed included in the prices bid for all items of work.

When placing fill or backfill around underground facilities in shallow excavations, twelve (12”) inch layers shall be deposited to progressively bury the facility to equal depths on both sides and for the full depth and width of the trench excavated for the facility.

(I) In deep trenches, in lieu of depositing and compacting the backfill from two (2’) feet above the underground facility to a plane five (5’) feet below final surface in accordance with the above specified procedure, the Contractor may submit to the Engineer, for approval, an alternate backfill method (i.e. puddling, jetting, deeper compaction layers, etc.). This submittal must fully describe the alternate method, including proposed equipment, backfill material, depth of compaction layer, and trench locations where it will be employed. However, approval of any alternate backfill method shall not relieve the Contractor from obtaining a minimum 95% standard Proctor maximum density. Should the Engineer determine that the specified density is not being obtained, the area must be re-excavated and backfilled at the Contractor’s own cost until the required compaction density is achieved.

(J) Backfill immediately adjacent to conduits shall not contain particles larger than one-quarter (1/4”) inch in diameter. Compaction shall be attained using impact rammers, plate or small drum vibrators, or pneumatic button head compaction equipment and shall be capable of exerting a pressure equivalent to two hundred and fifty (250) to three hundred (300) pounds per inch width of compression roll, or an equivalent pressure if other than smooth wheel or pneumatic tired rollers are permitted.

Hand tamping will not be permitted except in the immediate area of the underground facility.

The backfill, within two (2’) feet of such facilities, shall be wetted (except where clay is present) in twelve (12”) inch lifts and lightly hand tamped with as many strokes as required to achieve maximum density.

(K) Where sheeting has been used for the excavation, it shall be pulled when the excavation has been filled or backfilled to the maximum unsupported depth allowed by New York State Department of Labor Industrial Code Rule 23 and Title 29 Code of Federal Regulations Part 1926, Safety and Health Regulations for Construction. Where a difference exists between regulations, the more stringent requirements shall apply.

(L) In-place soil density tests will be required to ensure that the soil compaction requirements of the specifications are met. In-place soil density tests shall be taken for each and every layer of backfill placed, at a maximum of one hundred (100’) feet intervals along the length of each layer. However, the location of the tests shall vary horizontally along each successive layer,

such that no two (2) tests are conducted at the same station location as any previous layers. The number and locations of in-place soil density tests shall be as directed by the Engineer.
For each one thousand (1,000) cubic yards of each type of backfill soil utilized, for which in-place soil density tests are to be performed, shall undergo a minimum of one (1) Proctor analysis to determine the maximum dry density and optimum moisture content of the soil material to be tested. Due to varying soil conditions, additional Proctor analyses may be required by the Engineer. The number and locations of all samples to undergo Proctor analysis shall be as directed by the Engineer.
The Contractor shall retain the services of a testing laboratory, in accordance with Section 7.12 – Soil Density Testing, to make all compaction tests of backfill materials used and placed. All compaction tests shall be witnessed and verified by the Engineer. Proctor analyses and in-place soil density tests shall be performed in accordance with Section 7.12.
Unless otherwise provided for in the Contract no separate or additional payment shall be made for the depositing, compacting and sampling of backfill nor for the services of the approved testing laboratory, the costs thereof, shall be deemed included in the prices bid for all items of work.
The Contractor shall furnish the Engineer with copies of in-process compaction reports certified by a Professional Engineer as to the compliance with the requirements of the aforementioned filling and backfilling specifications. This certified compaction report shall be submitted as directed by NYCDDC QA.
The cost for all labor, materials, and equipment necessary and required to place, compact, sample and test provided acceptable backfill material shall be deemed included in the prices bid for all contract items of work. No separate or additional payment will be made for this work.

4.11.7. MEASUREMENT.

(A) EARTH EXCAVATION FOR STRUCTURES

Earth excavation within the limits of the work except for structures for which the contract prices include the cost of earth excavation, will be measured and allowed to the following limits:

	Payment Limits
For streets	Above the depth specified and between side limits specified.
For uncovering rock between grade and rock subgrade	Below grade and above the rock surface.
For the removal of boulders, loose fragments of rock, tree stumps, Roots and unsatisfactory material.	Below the depth specified and between side limits as directed.
For dry retaining walls. . . .	To depth specified and to vertical planes passing through the neat lines of the footings of the walls.
For masonry walls (except dry rubble), culverts and drains (except pipe drains)	To depths specified and to vertical planes passing one (1') feet outside of the neat lines of the structure.

(B) ROCK EXCAVATION IN STREETS, TRENCHES AND STRUCTURES

When rock surfaces in streets or trenches are uncovered, the Engineer shall be notified to provide the opportunity to make necessary measurements. Rock excavated or blasted before such measurements are made will not be paid for.
The qualities of rock to be measured for payment under each Rock Excavation item shall be the volume of ledge rock actually removed from within the following payment limits:

	Payment Limits
For streets	Above rock subgrade and between side limits specified.
For walls, culverts and other structures	Below rock subgrade to depths and to the payment lines specified.

(C) ADDITIONAL INCREMENTAL COST TO EXCAVATE ROCK AT DEPTHS GREATER THAN FIVE (5') FEET IN TRENCHES AND FOR STRUCTURES

For rock excavation within trenches and for structures, where the depth of rock excavation exceeds 5 feet below grade, that quantity of rock removed below five (5') feet of grade will be measured, under Item 4.11 BAA, for an additional incremental payment over and above that made for rock excavation

under Item 4.11 AA. There is no minimum thickness of rock excavation for payment under Item 4.11 BAA.

(D) FILL, PLACE MEASUREMENT

All filling required to complete the work, between the ground surface as determined by the Engineer before the work of filling is commenced and the surfaces specified, and between rock subgrade and the surfaces specified, will be measured in place after compaction.

No payment or allowance will be made for:

(1) sinkage, shrinkage, and settlement;

(2) backfilling holes below grade caused by the removal of boulders, loose fragments of rock, tree stumps, roots and other unsatisfactory material;

(3) backfilling to original ground surface for culverts, drains, basin connections, and between structures and sides of excavations;

(4) fill which may be spread out beyond the embankment slopes specified;

(5) spaces occupied by subsurface structures over one (1) cubic foot in volume when the placement or construction of such structures is made on newly placed fill and is started while fill operations are in progress.

The spaces occupied by curbs, crosswalks, flagging, concrete sidewalks, gutters, culverts, drains, basin connections, manholes, receiving basins, seepage basins, inlets, and gas or water pipes or any appurtenances thereof, will not be deducted from the volume of filling to be paid for when the aforesaid structures are placed or constructed after filling operations have been completed and excavation of the newly placed fill is required for such placement or construction.

(E) FILL, VEHICLE MEASUREMENT

All fill required to complete the work of filling on unstable ground by vehicle measurement, between the limits specified, will be measured in cars, trucks, etc., at the place of deposit. In computing the amount of fill to be paid for, one (1) cubic yard of measured material in the vehicle will be paid for as eight-tenths (0.8) of a cubic yard of fill. For carload and truckload deliveries, only water level loads will be accepted and no allowance will be made for any crown or peak of the load.

(F) SELECT GRANULAR FILL, PLACE MEASUREMENT

The quantity of select granular fill to be measured for payment shall be the number of cubic yards of select granular fill used outside the limits of trench excavation, as ordered in writing by the Engineer, measured in place after compaction.

No payment or allowance will be made for fill placed beyond the limits specified.

(G) SELECT GRANULAR FILL, VEHICLE MEASUREMENT

All select granular fill required to complete the work of filling on unstable ground by vehicle measurement, between the limits specified, will be measured in cars, trucks, etc., at the place of deposit. In computing the amount of select granular fill to be paid for, one (1) cubic yard of measured material in the vehicle will be paid for as eight-tenths (0.8) of a cubic yard of fill. For carload and truckload deliveries, only water level loads will be accepted and no allowance will be made for any crown or peak of the load.

No payment or allowance will be made for fill placed beyond the limits specified.

4.11.8. PRICES TO COVER.

(A) EARTH EXCAVATION FOR STRUCTURES

The contract price per cubic yard for earth excavation for structures shall cover the cost of all labor, materials, equipment, and insurance required to complete the work of earth excavation within the contract limits, in full compliance with the requirements of the specifications, without regard to the subsequent use of the excavated materials.

(B) ROCK EXCAVATION IN STREETS, TRENCHES AND STRUCTURES

The contract price bid per cubic yard for rock excavation shall cover the cost of all labor, materials, equipment, and insurance required to complete the work of rock excavation within the contract limits, in full compliance with the requirements of the specifications without regard to the subsequent use of the excavated material.

In addition, included in the unit prices bid hereunder for rock excavation shall be the cost of all labor, material, plant, and equipment required to furnish and deliver acceptable select granular fill material required to fill the voids left by the removal of ledge rock.

(C) ADDITIONAL INCREMENTAL COST TO EXCAVATE ROCK AT DEPTHS GREATER THAN FIVE (5') FEET IN TRENCHES AND FOR STRUCTURES

The contract price bid per cubic yard for the additional incremental cost to excavate rock at depths greater than five (5') feet in trenches and for structures, shall cover the cost of all additional labor, materials, equipment required to complete the work of rock removal at depths exceeding five (5') feet below grade. Payment under this item will be made in addition to that made under Item 4.11 AA.

(D) FILL

The contract price per cubic yard for Fill, Place Measurement or Vehicle Measurement, shall cover the cost of all labor, materials, and equipment required to complete the work of filling within the contract limits in full compliance with the requirements of the specifications. All material excavated within the limits of the work which is used as filling will be paid for as filling.

When there is no price for Fill, the cost of furnishing and depositing any Fill required shall be covered by and included in the contract prices bid for all respective items of work.

(E) SELECT GRANULAR FILL

The contract price per cubic yard for Select Granular Fill, Place Measurement or Vehicle Measurement, shall cover the cost of all labor, materials, plant, equipment, insurance, and samples required to furnish and deliver the clean select granular fill material and to do all work incidental thereto, all in accordance with the Contract Drawings and Specifications and as directed by the Engineer.

Payment will be made under:

Item No.	Item	Pay Unit
4.11 AA	ROCK EXCAVATION IN STREETS, TRENCHES AND STRUCTURES	C.Y.
4.11 AS	EARTH EXCAVATION FOR STRUCTURES	C.Y.
4.11 BAA	ADDITIONAL INCREMENTAL COST TO EXCAVATE ROCK AT DEPTHS GREATER THAN FIVE (5) FEET IN TRENCHES AND FOR STRUCTURES	C.Y.
4.11 CA	FILL, PLACE MEASUREMENT	C.Y.
4.11 CB	FILL, VEHICLE MEASUREMENT	C.Y.
4.11 CC	SELECT GRANULAR FILL, PLACE MEASUREMENT	C.Y.
4.11 CD	SELECT GRANULAR FILL, VEHICLE MEASUREMENT	C.Y.

SECTION 6.04 – GRANITE PAVERS ON CONCRETE BASE

6.04.01 DESCRIPTION. Under this Item, the Contractor shall furnish and install GRANITE PAVERS ON CONCRETE BASE in accordance with the plans, specifications, and directions of the Engineer.

6.04.02 MATERIALS: Unless otherwise specified herein, all materials shall conform to applicable portions of Section B, "Materials and Methods of Construction".

A. Granite Pavers: Shall be new and shall be cut from fine to medium grained sound and durable granite. The granite shall be reasonably uniform in quality and texture throughout and shall be free from an excess of mica and feldspar and from seams, scales, or evidence of disintegration.

The pavers shall be sawn on top and bottom faces, the top shall have a thermal finish. The four side faces of the paver shall have split face finish. The top side of the block shall be relatively flat with a maximum cleft of one-quarter inch (1/4"). The pavers shall be tumbled lightly or comer flamed to round sharp comers to ensure it meets ADA requirements. Granite Pavers shall be rectangular in shape and shall be a minimum of two inches (2") in thickness, unless otherwise shown on plans. Color of granite shall be as indicated on the drawings.

Pavers must comply with ADA accessibility standards as defined in American National Standards Institute (ANSI) ICC/ANSI A 117.1-2009 (or latest edition), Accessible and Usable Buildings and Facilities, Chapter 3, Section 303.

B. Mortar Setting Bed and Joints: Mortars shall conform to ASTM Designation C270, Type N, and shall be minimum 750 psi after twenty eight (28) days. Mix shall consist of one (1) part Portland Cement and a maximum of two (2) parts sand with not more than five percent (5%) of the cement content of hydrated lime or lime putty. The Contractor shall add Laticrete® 3701 Mortar Admix, as manufactured by Laticrete International, Inc., Bethany, CT, or approved equal, to the mortar, in accordance with the manufacturer's directions.

C. Concrete Base: The concrete base shall be as specified herein and as shown on the plans.

D. Concrete: Concrete shall be placed as shown. Concrete shall conform to NYC Department of Transportation class B-32, Type II A, air entrained, moderate sulphate resistant. The batch shall contain a minimum of six (6) bags of cement per cubic yard of concrete, maxim um of six and one quarter (6 ¼) gallons of water per bag, a maximum of three (3") inch slump, and a minimum compressive strength of 3,200 psi. Large aggregate shall be limited to one (I ") inch.

Maximum size aggregate is limited to Type No. 1 as specified in NYCDOT Department of Transportation Standard Specifications, Section 2.02, Aggregates, Latest Edition.

Cement: Air Entraining Portland Cement shall comply with ASTM Specification for Portland Cement, Designation CI 50. It shall be Type II A, Moderate Sulfate Resistant.

E. Fly Ash/GGBFS: A maximum of thirty (30 %) percent of Portland Cement content may be substituted with Fly Ash or Ground Granulated Blast Furnace Slag. Fly Ash shall conform to the requirements for Class F as defined by ASTM C618 - "Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete". Ground Granulated Furnace Blast Slag (GGBFS) shall conform to the requirements for Grade 100 or 120 slag as defined by ASTM C989 - "Standard Specification for Slag Cement for Use in Concrete and Mortars".

Portland Cement substitutions that demonstrate the same or similar properties as Fly Ash/GGBFS shall be accepted pending DPR review and approval.

F. Foundation: Material for Foundation shall be a straight run of single size aggregate and shall consist of either all one and one-half (1 1/2") inch stone or all three-quarter (3/4") inch stone in accordance with ASTM C33, free from organic or other deleterious material. In addition, Foundation Material may contain no more than five (5%) percent of fines, defined as aggregates passing a No.4 sieve or smaller.

The Magnesium Sulfate Soundness loss after ten (10) cycles shall be eighteen (18%) percent or less, as per ASTM C88. Coarse aggregate may be one of the following:

1. Broken Stone or gravel of approved quality and conforming to the requirements of NYC Department of Transportation Standard Specifications, Latest Edition.
2. Recycled Material consisting of at least ninety five (95%) percent by weight of the following:
    a. Recycled Portland Cement Concrete Aggregate or
    b. Recycled Portland Cement Concrete Aggregate mixed with Stone Gravel.

G. Laboratory Testing: The Contractor shall, at the direction of the Engineer furnish a certified report by an approved Materials Testing Laboratory showing the materials composition, sieve analysis, plasticity index, and soundness of the representative samples of recycled material which they propose to use.

The Engineer will deliver the samples to an independent testing laboratory. The Contractor shall bear responsibility for all costs associated with laboratory testing. No recycled material shall be delivered to the site until positive test results have been obtained. The Engineer reserves the right to reject on or after delivery any material which does not, in their opinion, meet these specifications.

H. Expansion Joint: The Contractor shall furnish and place expansion joint every 400 square feet or as shown on the plans. The expansion joint material shall be one of the following.

1. A premoulded bituminous fiber joint filler as specified in NYC Department of Transportation Standard Specifications, Latest Edition (requires a bond breaker and sealant) or, A premoulded closed cell expanded polyethylene form joint filler such as:
    a. MasterSeal 920 by BASF, Inc., Shakopee, MN (requires only sealant) or,
    b. An approved equal of any of the above.

I. Bond Breaker: If bituminous fiber material is used, a bond breaker such as one-half inch (1/2") width polyurethane tape or five-eighths inch (5/8") diameter expanded polyethylene foam backer rod shall be installed as recommended by manufacturer prior to pouring sealant. A bond breaker will not be required for a premoulded foam joint, but sealant is always required. Sealant: Prepared expansion joints shall be coated with a primer followed by installation of a bond breaker and a self-leveling two-component polyurethane-based elastomeric sealant. The Contractor shall apply Sikaflex 429 primer with Sikaflex - 2C SL sealant, manufactured by Sika Corp., Lyndhurst, NJ; or BASF MasterSeal P 173 with MasterSeal SL 2 sealant, by BASF, Inc., Shakopee, MN, or approved equal. Color of sealant shall be concrete gray. Asphalt cement will not be approved as a sealant.

6.04.03 INSTALLATION:

A. Preparation of Fine Grade: Before any pavement is placed upon the fine grade, the fine grade shall be prepared to line and grade and compacted where practicable with an approved self-propelling roller weighing not less than ten (10) tons. All hollows and depressions which develop under rolling shall be filled with acceptable material and shall again be rolled. This process of shaping, filling and rolling shall be repeated until no depressions develop.

The Contractor shall remove from the subgrade all debris, foreign material, and all other undesirable material designated by the Engineer. The fine grade shall not be muddy or otherwise unsatisfactory when the pavement is placed upon it. If the fine grade becomes rutted or displaced, due to any cause whatsoever, the Contractor shall regrade same without additional payment.

B. Spreading: Material for foundation shall be evenly spread on a prepared sub-grade in the position shown on the plans or directed by the Engineer, in four inch (4 ") layers, each layer to be rolled while wet with a seven (7) to twelve (12) ton tandem roller (or other approved method satisfactory to the Engineer) to the thickness shown on the plans or directed by the Engineer.

C. Forms: Forms shall be made of substantial material (preferably steel), with suitable metal dividing plates and of sufficient strength to satisfactorily resist distortion when fastened together and secured in place. Forms and dividing plates shall be of depth not less than that of the thickness of the concrete slab, properly located with tops set to the designated sidewalk surface, and left in place until the concrete is set.

D. Construction: Foundation course shall be wetted immediately before concrete is placed. The concrete shall be placed within the forms and thoroughly tamped until the surface is at the finished grade. The top surfaces shall be finished to true smooth planes by troweling.

When base is constructed in independent slabs, they shall be separated by expansion joints approximately one-quarter (1/4") inch wide. Adjacent to structures, (manholes, hydrants, etc.) expansion joints and sealant shall be installed as directed.

E. Expansion Joint: For pavements located within DPR property, expansion joints shall conform to this specification. For sidewalks, the expansion joints shall conform to NYCDOT Builders Pavement requirements.

After the concrete is placed, finished and set, and the bond breaker, if necessary, installed, the space, as shown in the drawings, shall be filled with a joint sealant. Thoroughly clean expansion joints of dirt, loose particles, asphalt, tar, paint, wax, waterproofing, and curing compounds. When dry, apply primer to the clean dry surfaces by brushing on a thin, uniform coat. Allow primer to dry, tack free. Fill joint with joint filler where necessary and compressible backer rod and leave a one-half inch (1/2") deep void for placement of sealant. Cover adjacent sides of joints with masking tape to prevent spillage onto pavement.

F. Sealant: Fully mix the two (2) component sealant and pour into joint slot in one (I) direction and allow to flow and level out as necessary. Smaller joints can be filled from a bulk-loading gun. Fill joints from bottom to prevent air voids. Tool lightly to smooth out ripples and maximize adhesion to the sides of joints. If bubbles form, wait 5-10 minutes before tooling to break the bubbles. Remove

excess sealant promptly as the work progresses and clean adjacent surfaces. Remove masking tape.

Install sealant in accordance with manufacturer's instructions including allowable minimum temperature of forty (40°F) degrees Fahrenheit.

G. Protection and Curing Concrete: Concrete base shall be carefully protected from the drying effects of the sun and wind, traffic, or other causes by means of suitable guards and coverings, and shall be kept moist for period of three (3) days. Before laying granite pavers Engineer shall inspect and approve the concrete base.

H. Setting Blocks: The Contractor shall lay the mortar setting bed as required to bring the blocks true to line and levels. The Blocks shall be thoroughly wet, and shall be set so as to shed water and according to the patterns shown on the plans or as directed by the Engineer. Joints between blocks shall be wet mortar flush with block and maximum three eights of an inch (3/8") in width with a one eighth inch tolerance (+/- 1/8"). All blocks shall be clean when placed in the pavement. Cutting of blocks to meet pattern requirements will be permitted, subject to approval of the Engineer.

After a sufficient area of block pavement has been laid, the surface shall be tested with a ten foot (IO') straight edge laid parallel with the center line and any depression exceeding one quarter inch (I /4") shall be corrected and brought to the proper grade. All stones disturbed in making replacements or correcting depressions shall be settled into place. Each section of pavement must be acceptable to the Engineer and/or Landscape Architect before the joints in that section are filled.

I. Joint Filler: Upon the completion of the work of laying the blocks to the satisfaction of the engineer, the surface of the blocks shall be swept clean, and the joints filled with mortar. All joints shall be filled the same day as the blocks are laid. Filler shall not be applied if the blocks are wet or if the air conditions are such that the filler does not readily enter the joints. Filler shall be well worked into the joints by means of squeegees or other approved devices operating slowly backward and forward. Squeegeeing shall continue until the joints are full. Immediately after the joints are filled, the pavement shall be swept clean.

6.04.04 SUBMITTALS: Submittals shall be in accordance with Section 1.06.31 of the NYCDOT Standard Highway Specifications.

A. Shop Drawings: The Contractor shall submit shop drawings showing the pattern and dimensions of stones with any numbering or keying that may be required and designation of all expansion joints for approval.

B. Samples: The Contractor shall submit two (2) samples of pavers before starting work for approval. Pavers used on site shall conform to the approved samples in all respects, in the opinion of the Engineer.

C. Design Mix report: The Contractor shall submit a design mix report prior to the production and delivery of concrete for review and approval. Design Mix Report dated more than one (1) year of

the submittal date will be rejected. The Contractor shall submit the design mix report including but not limited to the following information: date of design mix report, name and address of concrete mixing company, name and address of laboratory, name of project, water/cement (w/c) ratio, type and sieve analysis of aggregates, type of cement, type and amount of fly ash or slag used, percentage of Portland cement replacement by fly ash or slag, types of admixture used, amount of water used, air content and slump of design mix, three (3) day curing strength, seven (7) day curing strength, and twenty-eight (28) day curing strength.

6.04.05 MEASUREMENT. The quantity of **GRANITE PAVERS ON CONCRETE BASE** to be paid for under this Item shall be the number of **SQUARE YARDS** furnished and installed in accordance with the plans, specifications, and directions of the Engineer.

6.04.06 PRICE TO COVER. The price bid shall be a unit price per **SQUARE YARD of GRANITE PAVERS ON CONCRETE BASE** furnished and installed and shall include all labor, materials, equipment and incidentals necessary including subgrade preparation, foundation material, concrete base, expansion joints, bond breaker, sealant, mortar setting bed, mortar joints, and granite pavers in accordance with the plans, specifications, and directions of the Engineer.

Payment will be made under:

Item No.	Item	Pay Unit
6.04 NGP	NEW GRANITE PAVER WEARING COURSE FURNISHED AND INSTALLED	S.Y.

SECTION 6.94 DCB - DRAIN CATCH BASINS

6.94DCB.1. INTENT. This section describes the furnishing, delivering and installation of drain catch basins, as shown on the Contract Drawings and as directed by the Engineer. The drain catch basin shall include drain basin, riser, grate, end plugs, and any other hardware required to install the drain catch basin complete.

6.94DCB.2. DESCRIPTION. The drain catch basin is designed to collect stormwater runoff and transmit the runoff, through underground piping to the highway drain in the roadway.

6.94DCB.3 SUBMITTALS. Submittals shall be in accordance with Section 1.06.31 of the NYCDOT Standard Highway Specifications.

(A) .All drain catch basin components shall be the product of one manufacturer.

(B) Product Data - Provide manufacturer's information pertaining to all components of the proposed installation and including manufacturer's current recommended method of installation, including assembly and anchorage details. Provide sealant of type recommended by the drain catch basin manufacturer.

(C) Shop Drawings - All Shop Drawing submittals shall be as per **Section 1.06.13** of the NYCDOT Standard Highway Specifications. Provide Shop Drawings that show the detailed layout of the drain catch basin system with all part numbers indicated in the proper sequence including the dimensioned location of discharge pipe outlet connections.

(D) Delivery Storage and Handling - Protect the drain catch basin components and other materials from damage during delivery, jobsite handling and storage. Protect the installed work and materials from damage.

6.94DCB.4. MATERIALS. Materials shall comply with the following requirements:

(A) Drain Catch Basin (Drain Basin, Riser Grate, and End Plug) –

Shall be manufactured from rigid, lightweight polyolefin mixture with UV inhibitors for longevity and durability: Shall have a compressive strength of at least 32,000-psi; flexural strength of at least 24,000-psi; maximum water absorption rate of 0.33%. All discharge pipe outlet connections must follow the details shown on the Contract Drawings.

(B) Crushed Stone shall comply with the requirement of the New York City Department of Environmental Protection (NYCDEP) Standard Sewer Specifications **Section 4.12 - Crushed Stone Bedding For Sewers**.

(C) Concrete encasement - Shall comply with the requirements of NYCDEP's **General Specification 11 - Concrete,** as modified in **Section 2.15 of** NYCDEP Standard Sewer Specifications.

(D) Plastic Filter Fabric shall comply with NYC Department of Transportation, Standard Highway Specifications, **Section 6.68**.

6.94DCB.5. METHODS.

General - Drain catch basins shall be as indicated in the Contract Drawings; top of grate is to be set level with adjoining grade

(A) Examination - Prior to installation of the drain catch basin, ensure that all excavations and other work required to be installed is done correctly. All components shall be carefully inspected for defects immediately prior installing. No cracked, broken, or defective materials shall be used in the work. If any defective components shall be discovered after having been installed, it shall be removed and replaced with a sound component in an acceptable manner at no additional cost to the City.

(B) Excavation, Subgrade Preparation, and subbase

(1) Excavate to the depth required subgrade as shown on contract drawings of all materials of whatever nature encountered in accordance with **Section 4.11** of the NYCDOT Standard Highway Specifications.

(2) Compact subgrade and install crushed stone as show on contract drawings.

(C) Installation

(1) Install the drain catch basins in accordance with manufacturer's recommendations, as shown on the Contract Drawings and in compliance with approved Shop Drawings.

(2) Seal interlocking surfaces during installation. Clean all surplus sealant off of wetted surfaces and grate bearing areas before it hardens.

(3) Install the drain catch basins with the top edges level with adjoining final grade surfaces.

(4) Provide outlet connections as indicated on the Contract Drawings.

(5) The drain catch basin shall be installed on a minimum 4-inch bed of crushed stone wrapped in plastic filter fabric. A minimum 6-inch concrete collar encasement shall be placed all around the drain catch basin from the final grade surface to the top of the crushed stone bedding. The concrete surface shall be level with adjoining final grade surfaces. The concrete collar encasement shall be placed in formwork so as to provide a neat, straight face and edge all around the drain catch basin.

(6) After drain catch basin and concrete collar encasement are installed, reset and lock down all grates securely. Clean all concrete splatter and waste out of the system; do not plug or partially block drain outlets.

(D) Testing - After installation of drain catch basin together with concrete collar encasement and cured sealant, test the system to ensure that the water flows properly to the catch basins without ponding. If ponding occurs the Contractor shall take all steps require and as directed by the Engineer to alleviate ponding up to and including the excavation, removal and reinstallation of the drain catch basin at no additional cost to the City. The reinstalled drain catch basin shall be retest to the satisfaction of the Engineer.

6.94DCB.5. MEASUREMENT. The quantity of drain catch basins to be measured for payment shall be the number of drain catch basins, including piping and connections to highway drain incorporated in the work, complete, actually installed at the site to the satisfaction of the Engineer.

6.94DCB.6. PRICE TO COVER. The contract price bid for each Drain Catch Basin shall cover the cost of all labor, materials, plant, equipment, samples, tests, insurance, and incidentals necessary to install the drain catch basins of the sizes and dimensions specified, including but not limited to, the earth excavation; concrete collar encasement, piping, connections to highway drain;

backfilling; cleaning up; and furnishing and installing risers, grates, end plugs, fittings, sealants, all other items necessary to complete this work all in accordance with the Contract Drawings, the specifications , and directions of the Engineer.

Payment for the furnishing, delivering and placing of plastic filter fabric shall be made under Item No. 6.68 - PLASTIC FILTER FABRIC.

Payment will be made under:

Item No.	Item Description	Pay Unit
6.94DCB DCB-18	DRAIN CATCH BASIN - 18” SQUARE	EACH
6.94DCB DCB-24	DRAIN CATCH BASIN - 24” SQUARE	EACH

SECTION 7.07 A - REMOVING EXISTING STEEL BOLLARDS

7.07A.1. DESCRIPTION. Under this section, the Contractor shall remove existing steel bollards designated to be removed.

7.07A.2. METHODS. The Contractor shall be required to excavate and remove existing steel bollards complete with foundations and any other appurtenances. The number of bollards to be removed shall be as shown on the plans, unless otherwise directed by the Engineer. All removed materials shall become the property of the Contractor and shall be disposed of by him away from the work site.
All holes left by the removal operations shall be backfilled with a suitable material and compacted in a manner approved by the Engineer.

7.07A.3. MEASUREMENT. The quantity to be measured for payment will be the number of existing bollards removed and disposed of to the satisfaction of the Engineer.

7.07A.4. PRICE TO COVER. The contract price bid shall be a unit price per each bollard removed and shall cover the cost of furnishing all labor, materials, equipment, and incidentals required to complete the work in accordance with the plans, the specifications, and the directions of the Engineer.

Payment will be made under:

Item No.	Item	Pay Unit
7.07A	REMOVING EXISTING STEEL BOLLARDS	EACH

The Section below supersedes and replaces Section 7.13 of NYC DOT Standard Specifications dated May 16, 2022

SECTION 7.13 – MAINTENANCE OF SITE

7.13.1. DESCRIPTION. This section describes the maintenance, protection, and cleanup of the construction site. The Contractor is placed on notice that a safe and clean site throughout all phases of the work and during all operations must be provided by the Contractor, and further that the monitoring by the City of the Contractor's site maintenance, site protection and site cleanup is considered for the purposes of the contract to be a Project objective necessary to eliminate and/or mitigate public disruption and inconvenience, and to insure public health and safety. The Contractor shall therefore, at all times, conduct this operation in a manner which promotes a clean site and ensures the convenience, safety and health of general users consisting of, but not limited to, the motorist, the pedestrian, and the abutting property owners/tenants, as well as those of the Contractor's employees. This includes compliance with the Contractor Code of Conduct in **Section 1.06.19**.

The provisions of this section are supplementary to and do not abrogate the General Conditions (Section 1.06) or the General Notes on the Contract Drawings relating to the protection and cleanup of the site, and the delivery and storage of materials at the site. Furthermore, any conditions pertaining to the maintenance, protection, and cleanup of the construction site during the life of the contract which are addressed in the General Conditions and in the General Notes on the Contract Drawings, whether or not addressed under this Section, shall be deemed as having been addressed under this Section.

7.13.2. METHODS.

(A) GENERAL

Work under this Item shall start from the date of written notice to commence work or from the actual start of construction work at the site, whichever is later.

The Contractor shall be responsible for the maintenance of the contract streets or portions of streets pursuant to Article 7 of the Standard Construction Contract.

The Contractor shall provide the necessary personnel and equipment for adequate site maintenance within and adjacent to the contract site and all detour routes. The Contractor shall keep the work site and adjacent areas free and clean from all rubbish, debris, dust, idle construction equipment, discarded or leftover construction material and excavated material as outlined below. The Contractor shall also keep all haul routes outside the work site free and clean from all rubbish, debris and dust resulting from the Contractor's operations.

The Contractor shall protect the public from damage to persons and property, which may result directly or indirectly from any construction operation. Such protection shall include, but not be limited to, providing proper street drainage and diversion of runoffs from private properties by such means as sandbagging or pumping, controlling soil erosion and/or soil migration.

All existing Fire Department Communication facilities shall be protected, and provisions made for their continuous operation during construction. ALL ALARM BOXES AND POSTS MUST REMAIN ACCESSIBLE. If, due to the Contractor's operations, Fire Alarm Service is inadvertently interrupted or Fire Communication System equipment or facilities are damaged, the Contractor will be held responsible and shall replace them at its own expense and in accordance with Fire Department requirements.

The Contractor shall be fully responsible for maintaining the completed work in an acceptable condition and protecting the completed work until relieved of such responsibility by acceptance of the contract or the completed items of work. Upon completion of each phase of work, or when ordered by the Engineer, and before acceptance and final payment are made, the Contractor shall remove all surplus and discarded material, rubbish, equipment, debris, and temporary structures from the site, and restore the working site as directed by and to the satisfaction of the Engineer. All sewers, water mains, appurtenant structures, etc., shall be clean, free from debris and deposits.

(B) MAINTENANCE OF STREETS

Maintenance of streets and detours for vehicles shall include any repairs, as directed, including the filling of pre-existing and new potholes that may be necessary due to usage of streets by traffic. This repair work will be paid for under Item No. 4.02 CB - ASPHALTIC CONCRETE MIXTURE, or 4.02 CA - BINDER MIXTURE, as provided in the Bid Schedule.

Also, the Contractor shall provide reasonably safe and convenient walkways and passageways for pedestrian traffic. Where required by the Contract Documents or when ordered by the Engineer, the Contractor shall construct and maintain, as directed, temporary asphalt walkways and ramps in accordance with the requirements of Subsection 7.13.2.(G)(1), below, temporary wood plank or steel plate ramps or other configurations and materials, as may be required, and provide temporary pedestrian passageways (as per the NYC Department of Transportation's Standard Details of Construction, Standard Drawing H-1004, or as otherwise approved). The Contractor shall make the surface(s) of the pedestrian pathway(s) safe by eliminating ponding conditions, removing debris, sweeping, and wetting for dust control. All walkways and passageways must be in compliance with all ADA requirements.

The Contractor shall maintain access to all abutting properties and pedestrian usage of sidewalk areas, both old and new, at all times, as directed by the Engineer and as shown on the Contract Drawings, except at "Sidewalk Closings" as designated or as directed.

The Contractor shall maintain the traveled way in such a condition and conduct operations in such a manner that snow, and ice may be readily removed by others as and when necessary, and in such a manner that proper drainage is provided for the melting of snow in the banks resulting from normal plowing. However, the Contractor will not be responsible for snow or ice removal on the pavement or traveled way opened for public usage, except within the limits of the work zone(s) which may include, but is not limited to, stairway, promenades, esplanade areas, and sidewalk, including those fronting the Contractor's office and the Engineer's field office all of which will be the responsibility of the Contractor. In order to minimize the amount of salts entering the storm sewer system, snow melt must not be used in place of shoveling, but must be used after all standing snow is removed. This does not prohibit applying reasonable amounts of snow melt prior to snowfall.

(C) CONTROL OF DUST AND DEBRIS

The Contractor shall control dust and debris within the work area and the traveled way. The Contractor shall mitigate material spilling from trucks with the use of tarpaulin covers. All dust producing materials shall be wet down with water to the extent necessary to minimize dust. When public or local inconvenience is caused by dust occasioned by the sweeping and cleaning operations, the Contractor shall furnish and sprinkle water onto the affected surfaces during the sweeping and cleaning operations; however, the application of water shall not be used as a substitute for sweeping.

The Contractor shall perform all work operations so that dust and debris is minimized within the work zone and mitigated before any of it leaves the work zone. Movement of dust and debris by wind, vehicles, persons, and the Contractor's operations shall be cause for sweeping and watering to be implemented immediately as directed by the Engineer. Also, should dust and dirt cover over all or portions of the work site it shall also be cause for immediate sweeping and watering by the Contractor.

All water furnished and applied under this item shall be free from harmful materials and shall be reasonably clean. Water shall be delivered in tanks or tank trucks, or by use of hydrants as permitted by the Department of Environmental Protection; however, no guarantee is made by the City as to the availability of suitable hydrants at the site. Where no suitable hydrants exist at the site, the Contractor shall be required to furnish water in tanks or tank trucks at no additional cost to the City.

(D) CLEANING OF SITE AND WASTE DISPOSAL

The Contractor shall be responsible for the removal of all rubbish and debris from the site of the project. The Contractor shall remove all piles of rubbish, debris, waste material and wood cratings as a result of the Contractor's operations as they accumulate. When directed by the Engineer the Contractor shall cart them away from the site. The Contractor shall employ and keep engaged for this purpose an adequate force of laborers.

The Contractor shall at the beginning and end of each day be required to pick up all litter, trash, and debris (excluding garbage and recycled material set to be picked up by scheduled private and/or public sanitation pickups) adjacent to and within the work zone on a daily basis, seven (7) days a week. The Contractor shall also during the day keep clean all roadways, sidewalks and other places in which the work is being performed or which are to be used in connection therewith.

The Contractor shall protect the site against unauthorized dumping of waste materials by patrolling the site and reporting violations to the Engineer, and should any unauthorized dumping occur, it shall be immediately removed by the Contractor to the Engineer's satisfaction.

While performing the above site cleaning work, the Contractor shall have available an approved mechanical street sweeper, with operator, suitable for removing dirt, debris, dust and loose stones; a sprinkler truck; adequate size pick-up truck with driver and laborers; an adequate supply of brooms, sixteen (16) inch wide or larger; and necessary hand tools and materials. The Contractor shall arrange to have necessary persons and equipment assigned to satisfy concerns relating to required clean up and restoration work. These persons with equipment shall be available to correct all matters requiring attention and shall be immediately available to respond to directives issued by the Engineer regarding specified problems of maintenance and cleaning.

The Contractor shall perform this work during the normal or extended working days. However, when required in accordance with the approved schedule or directed, the Contractor shall be prepared to extend this work beyond the normal workday, including weekends.

The Contractor shall provide trash receptacles for use by its construction staff. The trash shall be periodically removed and disposed of in compliance with local ordinances.

(E) DISPOSAL OF REMOVED MATERIALS

Except as may be otherwise specified herein or in the General Conditions, all materials which are permanently removed from the existing construction by the Contractor in accordance with the Contract Documents shall become the Contractor’s property and shall be disposed of by him away from the site.

In addition, it is the intent of NYCDDC to have all metals that are excavated and removed from the site, such as iron castings street hardware (i.e., manhole frames and cover, valve box covers, hydrants, etc.), ductile iron sewer pipe, steel and ductile iron water main pipe, trolley track rails, etc. (excluding steel reinforcement embedded in concrete), recycled provided that they are not deemed contaminated or hazardous. Therefore, the Contractor shall agree to make every effort possible to recycle said metals removed from the site. As a record of such compliance, the Contractor shall be required to keep an accurate log of said materials that are excavated and removed from the site and where and how said materials are either processed for reuse or disposed of away from the site. A copy of said log shall be submitted to the Engineer along with the invoice submitted by the Contractor for payment each month.

(F) REMOVAL OF SURPLUS PLANT AND EQUIPMENT

When ordered by the Engineer, the Contractor shall be required to promptly move from any location within the contract area all such items of plant and equipment determined to be no longer necessary for the effective prosecution of the work at such point, to other locations to be designated by the Engineer. If, in the opinion of the Engineer, plant and equipment are no longer required on any portion of the work, they shall be removed from the site when so ordered.

Where access to regularly scheduled private and/or public sanitation pickups, such as garbage and recycled materials, is blocked due to the Contractor’s operations, the Contractor shall coordinate a schedule for collection of said materials, and/or shall collect and transport garbage and recycled materials to collection points, as directed by the Engineer, for disposal by public or private collections, as appropriate.

Waste material shall not be dumped in or on any part of the City's property except by special permission of the Engineer. Concrete mixing trucks shall not be washed on City streets nor shall the waste material from the washing out of concrete mixing trucks be discharged to any street, public property, sewer manhole, catch basin, sewer, street gutter, or other above or below ground structures. All excavated materials falling on roadways and sidewalks shall be promptly swept up and removed.

(G) MAINTAINING ACCESS TO PROPERTIES AT CUT AND FILL LOCATIONS

When it is necessary to cut or fill at abutting properties in accordance with the contract requirements, the Contractor shall immediately commence construction to provide entrance to and egress from said properties as shown on the Contract Drawings and/or by one of the following methods, or modifications made thereto, when so ordered by the Engineer:

(1) "Asphalt Ramps"

Temporary access ramps shall be made hard and smooth surfaced with asphaltic material (to be paid for under Item No. 4.02 CB or 4.02 CA, as provided in the Bid Schedule) The slope of temporary ramps at driveways and transition areas shall be approximately 25% [approximately a three (3") inch rise in one (1') foot] and be limited to a width of not more than eight (8') feet for single driveways and not more than twelve (12') feet for double driveways. The slope of temporary ramps at street hardware shall range between 1:10 and 1:6 (rise:run). The slope of temporary pedestrian ramps shall be limited to a width of not less than four (4') nor more than five (5') feet and a slope of approximately 1:12.

(2) "Benching"

In locations where embankments are to be constructed on existing slopes or against existing embankments with slopes steeper than 1 (vertical) on 3 (horizontal), slopes shall be benched as shown on the Contract Drawings. Benches shall be constructed as a "Temporary Retaining Wall" (Item No. 8.12). Access to abutting properties shall be provided as shown on the Contract Drawings or as per the details shown on the NYC Department of Transportation's Standard Details of Construction, Standard Drawing for Temporary Wooden Steps (Item No. 7.15).

(3) "Specified"

By methods specified and detailed on the Contract Drawings.

(H) FINAL CLEARANCE OF SITE

Immediately after the completion of the contract and before final acceptance of the Work by the Department, the Contractor shall remove all surplus material, temporary structures, and debris resulting from the Contractor's operations. Any painted markings (layout survey, etc.), excluding utility markings made under 16 NYCRR Part 753 (utility markings made under Part 753 shall not be removed), that have been placed by the Contractor and which are still remaining at the end of the contract shall be removed. Removal of painted markings shall be done using an approved power-washing method. The entire area shall be cleared and left in a neat presentable manner satisfactory to the Commissioner.

If as a result of the Contractor's operations, obstructions have fallen into a navigable waterway, they must be removed and the waterway and channel cleared; and the Contractor must obtain a release from the United States Coast Guard.

7.13.3. STORAGE OF MATERIALS AND EQUIPMENT. Roadways, sidewalks, gutters, crosswalks, and driveways shall at all times be kept clear and unobstructed unless a permit has been obtained from NYC Department of Transportation authorizing encumbrance of the roadway and/or sidewalk with equipment and/or material, provided it is in a manner which will not prevent the safe passage of vehicular traffic on such roadway designated to remain open, or the safe passage of pedestrians on such sidewalk and crosswalks, or block the normal drainage flow within the streets.

(A) DELIVERED MATERIALS NOT TO OBSTRUCT TRAFFIC

All materials delivered upon but not placed in the work shall be neatly piled so as not to obstruct public travel and shall be removed from the line of the work, at the direction of the Engineer, at no additional cost to the City. Unless the materials are so removed by the Contractor upon notice from the Engineer, the materials may be removed by the Commissioner and the expense thereof charged to the Contractor.

(B) PILING OF MATERIALS DELIVERED TO WORK SITE

Materials placed on the sidewalk or roadway shall be piled or stacked in a satisfactory and safe manner, enclosed with plastic barrels (Section 6.87) or barricades (Section 6.28 AA or 6.28 BA), and with pedestrian steel barricades (Section 7.36), "WARNING: KEEP OUT" signs (Section 6.25), and heavy duty safety orange construction fencing. The heavy duty safety orange construction fencing shall be safety orange in

color, of heavy duty construction grade flexible plastic (light duty plastic screening fence will not be accepted), have a minimum height of four (4') feet, and shall be of a type approved by the Engineer. The heavy duty safety orange construction fencing shall be held vertically in place for its full length and shall be securely attached to barrels, utility poles, or a combination thereof, or other traffic control devices shown on the Contract Drawings or directed, in a manner approved by the Engineer. Loose materials shall be covered with tarpaulins, suitably held down. Areas adjacent to stored materials shall be kept clean and watered as required and as directed by the Engineer. When such materials are removed, the sidewalks and roadways must be immediately swept clean by the Contractor and control of dust shall be mitigated in accordance with the requirements of Subsection 7.13.2.(C), above.

Materials to be used in the work shall be compactly piled within limits to be designated by the Engineer. Sand and coarse aggregate may be piled within the roadway area. All old and such new material as has been approved, except sand and coarse aggregate, shall be neatly piled by the Contractor on the front half of the sidewalk, on planks or plates, if the same be flagged or otherwise improved.

Stored material shall be neatly stacked, placed at locations designated by the Engineer, and suitably enclosed or covered, protected, and wet down, as stipulated above. Streets under such construction material or equipment shall be shielded by wooden planking, skids or other protective covering approved by the Engineer. All pipes, fittings and appurtenances must be carefully stored, as approved by the Engineer, so as to prevent surface drainage, excavation material or other foreign matter from entering into the pipes, fittings and appurtenances.

Waste material and excavated material will under no conditions be permitted to remain on the work site or

Provisions must be made by the Contractor to maintain curb-line drainage through storage areas. Stored materials shall not block the normal drainage flow or cause ponding conditions within streets and shall not be placed within fifteen (15') feet of any fire hydrant (working or not), at bus stops, within tree root zone areas, or any other areas as set forth in the rules of the department the obstruction of which would impair the safety or convenience of the public (also see General Notes on Contract Drawings for any additional information). In a street upon which there is a surface railroad, construction materials or equipment shall not be placed nearer to the track than five (5) feet.

The Contractor shall not be permitted to store, stockpile or lay down any construction material within the boundaries of tree pits or critical root zone (CRZ) of existing trees. This material includes but is not limited to lumber, fuel and oil containers, pipes, pipe fittings, barricades, hand tools, hoses, hardware, bricks, salvaged stone or granite, trash receptacles, or asphalt. Bulk material, equipment, or vehicles shall not be stockpiled or parked within the CRZ of any tree, or within ten (10') feet of the trunk (whichever is greater). This is done to minimize surface and subsurface root and soil compaction. This applies to all CRZs within or outside the project limit line. CRZ is calculated as (DBH x 1.5 ft = Radius). The radius calculation is equal to the critical root zone.

When no work is in progress, at least one half of the roadway must be left clear at all times.

The Contractor must remove any stored materials/equipment from the project street(s), as directed by the Engineer, within forty-eight (48) hours' notice, at no additional cost to the City. Payment for compliance with such a directive shall be deemed included in the unit price bid for this "Maintenance of Site" item.

(C) ILLUMINATION OF BUILDING MATERIAL AND EQUIPMENT ON STREETS

Pursuant to Section 19-121 of the Administrative Code of the City of New York, the Contractor's attention is directed to the following:

1. Whenever a permit is issued for any construction material or equipment, the outer surface of such construction material or equipment shall be clearly marked with high intensity fluorescent paint, reflectors, or other marking which is capable of producing a warning glow when illuminated by the headlamps of a vehicle or other source of illumination.

2. Each approved storage area shall have at least one (1) sign identifying the Contractor's name, Project ID/Name, and the phone number of the Engineer's Field Office.

3. Violations. Any person who shall violate any of the above provisions, upon conviction thereof, shall be subject to the Criminal penalties pursuant to Section 19-149 of the Administrative Code of the City of New York or Civil penalties pursuant to Section 19-150 of the Administrative Code of the City of New York, or both such fines and imprisonment.

(D) STORAGE WITHIN THE PROJECT LIMITS

The Contractor will not be permitted to store construction equipment, construction material or excavated material within the project limits, except where specifically approved by the Engineer and only under the following conditions:

The Contractor will not be permitted to allow the personal vehicles of the Contractor's work force to be stored, parked, or to stand within the limits of any designated work area or in "no parking", "no standing", and/or other restricted zones; vehicles so stored, parked, or found standing may be ticketed and/or towed at the owner's expense. This restriction shall exclude Contractor owned vehicles transporting and/or storing specialized equipment and/or materials necessary for the execution of ongoing contract work, as approved by the Engineer. The Contractor shall be responsible for properly notifying the Contractor's work force of these restrictions.

Payment for traffic control devices such as plastic barrels, barricades, pedestrian steel barricades, and warning signs used to enclose stored materials and equipment within the project limits will be paid for under the appropriately scheduled items; however, when no appropriately scheduled item or items are provided in the bid schedule, the cost of those items shall be deemed included under all scheduled items.

Materials stored on site shall be "Installed in Place" within two (2) consecutive working days of delivery to the job site, unless otherwise specified or permitted by the Engineer. (Construction supervisor will be required to maintain accurate records of all delivery dates.) No material shall be stored on site during construction shutdowns and/or stoppages scheduled to last more than five (5) consecutive working days.

(E) STORAGE OUTSIDE THE PROJECT LIMITS

The Contractor may be permitted to occupy off site street/roadway areas for material storage, subject to their availability and conformance with City wide permitting requirements for storage of materials; however, this neither implies nor guaranties the Contractor the availability and/or approval of any off site street/roadway areas.

Materials and/or equipment must be stored safely and neatly as specified above, with appropriate Maintenance and Protection of Traffic devices separating the storage area from vehicular traffic and pedestrians. Loose materials must be properly and neatly stored.

No separate payment will be made for providing off site storage site(s) where approved or for providing any traffic control devices used for off-site storage, the cost of which shall be deemed included under all scheduled items.

7.13.4. NONCONFORMANCE. No payment will be made under Maintenance of Site for each calendar day during which there are deficiencies in compliance with the foregoing specification requirements, as determined by the Engineer and made evident by the Engineer's failure to sign documents each day approving payment to be made under this item.

The amount of such calendar day non-payment will be determined by dividing the unit price bid per month by thirty (30).

If the Contractor fails to maintain and protect the site, or any portion thereof, adequately and safely for a period of three (3) or more consecutive hours, the Engineer may correct the adverse conditions by any means deemed appropriate, including, but not limited to, "outside services," and shall deduct the cost of the corrective work from any monies due the Contractor. The cost of this work shall be in addition to the nonpayment for site maintenance listed above.

However, where continued nonconformance with the requirements of this specification is noted by the Engineer, and prompt Contractor compliance is deemed not to be obtainable, all contract work may be

stopped by direct order of the Engineer, regardless of whether corrections are made by the Engineer as stated in the paragraph above.

Furthermore, in addition to the remedies specified above, in the event the Contractor shall fail to comply, within three (3) consecutive hours after written notice from the Engineer, with the requirements of the contract and the specifications in the matter of providing facilities and services for the maintenance, protection and cleanup of the construction site, the Contractor shall pay to the City of New York, until such notice has been complied with or rescinded, the sum shown per calendar day in Schedule A, for each instance of such failure, as liquidated damages and not as a penalty, for such default.

Any money due the City of New York under this provision shall be deducted from the amounts due or to become due to the Contractor for work performed under the contract.

7.13.5. MEASUREMENT.

(A) MAINTENANCE OF SITE (LUMP SUM)

Payment will be made by lump sum.

(B) MAINTENANCE OF SITE (PER MONTH)

The quantity to be measured for payment under this item shall be the number of months (to the nearest 1/4 month increment) that the Contractor satisfactorily provides for the Maintenance of Site in accordance with these specifications, including winter shut down, holiday embargo, and other work suspension periods for which the Contractor remains responsible for site maintenance. Measurement for this item shall not begin until actual construction work is started at the site.

Periods where the Contractor is demobilized and not continuing the site maintenance will not be measured for payment. The Engineer will provide written notice two weeks in advance that the Contractor is being deemed to be demobilized. For the avoidance of doubt, reduced activity during winter shutdowns, holiday embargos, and other work suspension periods as shown on the Contractor's approved CPM schedule do not count as demobilization, provided the Contractor continues to be responsible for site maintenance and responsive to notifications of nonconformance per **Subsection 7.13.4** above. Should such nonconformance occur during periods of demobilization, the liquidated damages described in **Subsection 7.13.4** above may be assessed during periods where maintenance of site is not being measured for payment.

In order to incentivize early completion, the City agrees to share the savings resulting from the reduction of the quantity measured for payment under this item.

If the determination of Substantial Completion is reached at least two (2) months earlier than the Substantial Completion date set forth in the Notice to Proceed letter, plus any approved time extensions, the Contractor and the City will evenly split the saved amount. This payment will be in addition to any payments of incentive for early completion if one is specified for the Project.

For example, using a contract with a 30-month duration for achievement of substantial completion, the following would apply under these two scenarios:

1. Project substantial completion is achieved in 28.5 months: Because the contract was completed within two (2) months of the scheduled substantial completion date, the contractor is entitled to be paid the 28.5 month project duration for the Maintenance of Site, with no additional amounts due to the contractor from any savings.
2. Project substantial completion is achieved in 26 months: Because the contract was completed more than two (2) months prior to the scheduled substantial completion date, the contractor is entitled to be paid the 26 month project duration plus half of the four months saved, amounting to 28 months to be paid to the contractor for the Maintenance of Site.
3.

7.13.6. PRICE TO COVER.

(A) MAINTENANCE OF SITE (LUMP SUM)

The lump sum price bid for Maintenance of Site shall include the cost of furnishing all labor, materials, plant, equipment, insurance and incidentals required to maintain, protect and clean up the site, all in accordance

with the Contract Drawings, these specifications, and the directions of the Engineer. Payment will be made in proportion to the percentage of actual contract completion. The final payment for this item will be in direct proportion (whether higher or lower) to the final contract value as compared to the original contract value.

(B) MAINTENANCE OF SITE (PER MONTH)

The unit price bid per month for Maintenance of Site shall include the cost of furnishing all labor, materials, plant, equipment, insurance and incidentals required to maintain, protect and clean up the site, all in accordance with the Contract Drawings, these specifications, and the directions of the Engineer.

Where no separate item is provided for this work, the cost thereof shall be deemed to be included under all scheduled items.

Payment will be made under:

Item No.	Item	Pay Unit
7.13 A	MAINTENANCE OF SITE	L.S.
7.13 B	MAINTENANCE OF SITE	MONTH

SECTION 7.35 - PEDESTRIAN CHANNELIZER

7.35.1. INTENT.

This section describes the work of providing interlocking pedestrian channelizers to be used as temporary pedestrian access route between pedestrian and construction work areas when directed by the Engineer.

Pedestrian channelizer must provide the same level of pedestrian guidance as concrete or plastic barrier, but should be light weight, easier to transport, install and remove with interlocking arrangements.

7.35.2. MATERIALS.

The work shall consist of furnishing, maintaining, relocating, and removing pedestrian channelizer in sidewalk areas as per the specifications, as shown on the Contract Drawings or where otherwise directed by the Engineer.

Pedestrian Channelizer units must meet the requirements of the following standards:

a. 2010 ADA Standards for Accessible Design
b. 2011 Proposed Accessibility Guidelines for Pedestrian Facilities in the Public Right-of-Way (PROWAG)
c. 2009 Manual on Uniform Traffic Control Devices (MUTCD), with FHWA Revisions and NYS Supplements

Product should meet the crash test and evaluation criteria contained in the American Association of State Highway and Transportation Officials' (AASHTO) Manual for Assessing Safety Hardware (MASH) and have a FHWA acceptance letter.

Acceptable products include:

a. ADA PEDESTRIAN BARRICADE – STRONG WALL by PLASTICADE
b. ADA COMPLIANT PEDESTRIAN BARRICADE like Safety Rail & SafetyWall by PSS
c. Urbanite 57000 Series by Urbanite
d. Plastic Safety System Safety Wall by PAUL PETERSON SAFETY DIVISION.
e. Or approved equivalent

Battery operated flashing units as approved by the Engineer.

7.35.3. METHODS.

Pedestrian Channelizer units of the various sizes required shall be furnished to the site, complete, ready to use. All units shall be in good condition and acceptable to the Engineer. pedestrian channelizer installed must meet the requirements of the standards listed in **Section 7.35.2** above.

The Contractor shall install pedestrian channelizer by placing them where shown on the Contract Drawings or where otherwise directed by the Engineer. Adjacent units shall be interlocked. Weights (sand or water ballast in the unit, sandbags, concrete blocks, etc.) must be used per the manufacturer’s recommendations, as necessary to ensure stability, or as directed by the Engineer. Weights must not interfere with pedestrian travel. The minimum number of interlocked barricade units in a given run must be two, unless otherwise approved by the Engineer. Where less than three units are required and approved by the Engineer, additional measures shall be taken by the Contractor to stabilize the shorter length of interlocking barricade and prevent overturning.

At corners, units four feet or less in length must be used to form smooth curved runs of barricade.

Contractor shall continuously maintain the temporary pedestrian steel barricades, where shown on the Contract Drawings or directed by the Engineer, until ordered by the Engineer to remove the barricades at the completion of a work stage. Should a unit or units of barricades become damaged or otherwise unacceptable to the Engineer, the Contractor shall replace said units within twenty-four (24) hours of notice by the Engineer, at no additional cost to the City.

Battery operated flashing units will be installed on every alternate pedestrian channelizer or as approved by the Engineer.

7.35.4. MEASUREMENT.

The quantity to be measured for payment shall be the number of linear feet of pedestrian channelizer constructed and placed, complete, based upon the summation of the lengths of the individual units so constructed and placed.

Payment will be made for only the initial installation at any location. Whenever pedestrian channelizer are moved to a new location, as required by the Contract Drawings or directed by the Engineer, payment will be made in the same manner as if it were an initial installation. Whenever the Contractor proposes to move pedestrian channelizer to a new location it is subject to approval of the Engineer and must be in accordance with the latest approved progress schedule. Minor movement of the pedestrian channelizer within a work area will not be considered as a movement to a new location and will not entitle the Contractor to additional payment. Minor movement within a work area includes, but is not limited to

- Movement from one side of the roadway to the other side
- Movement to adjust the roadway or work zone width
- Movement required to access the work zone or to secure the work zone
- Linear movement of less than one block within an established work zone
- Rearrangement within a work area

No payment will be made: for non-interlocked units of barricade; for barricade units greater than four (4') feet in length used in corner quadrants; for movements of pedestrian channelizer made for the Contractor's convenience; for movement of barricades at a given location at the end of a work period and subsequent replacement at the same location at the beginning of the next work period; for movement of barricades at a given location during a work period and subsequent replacement at the same location during the same work period; or for the interchanging of barricades between initial installations.

7.35.5. PRICE TO COVER.

The contract price bid per linear foot for PEDESTRIAN CHANNELIZER will cover the cost of furnishing all labor, materials, plant, equipment, insurance, battery operated flashing units and necessary incidentals required to furnish, install, maintain, relocate, and remove PEDESTRIAN CHANNELIZER, complete with weights for stability, in accordance with the Contract Drawings, the specifications, and the directions of the Engineer.

Where there is no scheduled item for temporary Pedestrian Steel Barricades, the cost of furnishing, installation, maintenance, relocation, and subsequent removal of PEDESTRIAN CHANNELIZER as required will be deemed included in the unit price bid for the Maintenance and Protection of Traffic Item.

Payment will be made under:

Item No.	Item	Pay Unit
7.35	PEDESTRIAN CHANNELIZER	L.F.

SECTION 7.55 SS - STAINLESS STEEL RAILING

7.55SS.1 INTENT. Under this section, the Contractor shall furnish and install a twin (top & bottom) pipe railing in accordance with the Contract Drawings, the specifications, and the directions of the Engineer.

7.55SS.2 MATERIALS. All materials to be stainless steel, grade 316, unless otherwise indicated tubing to conform to ASTM Designation A 269

(A) Angles and bars shall conform to ASTM Designation A 276.

(B) Bolts, nuts, and washers shall conform to ASTM Designation F 593.

(C) Plate, sheet and strips shall conform to ASTM Designation A 666.

(D) Finish to be polished no. 4

(E) Fasteners: Use countersunk tamper-resistant flat heads for exposed fasteners, unless otherwise indicated.

7.55SS.3 METHODS.

(A) All welds shall comply with the current requirements of the American Welding Society. Welding electrodes and filler materials to be stainless steel.

(B) The Contractor shall furnish and install a new twin pipe railing for embedment or bolting to the concrete parapet as shown on the Contract Drawings or directed by the Engineer.

7.55SS.4 SUBMITTALS. All submittals shall be in accordance with **Section 1.06.31 of the.** NYCDOT Standard Highway Specifications.

(A) Shop Drawings: All Shop Drawing submittals shall be as per **Section 1.06.13** of the NYCDOT Standard Highway Specifications. Show fabrication details and connections to adjacent work.
  (1) Include location of anchor bolts required.

(B) Product Data: catalog sheets, specifications, and installation instructions as applicable.

(C) Samples:
  (1) Metal Finish Samples: 6 inches long, use metal of same alloy and configuration to be used for the work.
  (2) Fittings, Brackets, Flanges, and other Accessories: Full size, each type required

7.55SS.5 FABRICATION.

(A) General

(1) Fabricate items of material, size, and dimensions indicated. Preassemble items in shop to the greatest extent possible. Design components to allow for expansion and contraction for a minimum ambient temperature range of 100 degrees F.

(2) Form metal work to required shapes and sizes, with true lines, angles and curves. Provide necessary rebates, lugs, brackets, flanges, fasteners, and anchors for assembly and installation. Use concealed fasteners where possible.

(3) Provide welds behind finished surfaces without distortion or discoloration on exposed side. Clean and dress welds on exposed and contact surfaces.

(4) Mill joints to tight, hairline fit. Cope or miter corners. Form joints exposed to weather to exclude water penetration.

(5) Where cutting, welding, and grinding are required for proper shop fitting and jointing, restore finishes to eliminate evidence of such corrective work.

(6) Furnish sound castings, free of warp and defects which impair strength or appearance. Mill joints to close fit. Finish exposed surfaces smooth, with sharp, well-defined lines and arises.

(7) Ease corners of square and rectangular tube to approximately 1/16 inch radius.

(8) Provide brackets, flanges, anchors, and other accessories required for joining and securing rails and posts. Use materials of same type as railing system finished to match when exposed, unless otherwise indicated.

(9) Fabrication: Prepare rails and posts for joining together by means of post brackets, secured with concealed fasteners. Join rails with splice connectors designed to draw rails together. Splice rails only at center of post brackets. Provide corner bends where rails change direction. Cap ends of rails not attached to other construction. Cap open ends of posts.

(10) Where posts are required to be set in sleeves, furnish galvanized steel tube sleeves with closed steel plate bottom at least one inch (1”) wider than sleeve. Sleeves shall be minimum 6 inches long, sized so that inside diameter is not less than 1/2 inch greater than outside dimension of post, unless otherwise indicated or required. Provide cover flange, secured to post, to conceal anchorage joint.

(11) Install the Work of this Section in accordance with manufacturer’s instructions, except as shown or specified otherwise.

(12) Perform cutting, drilling, and fitting required for installation. Set items accurately in location, alignment, and elevation. Securely fasten in place.

7.55SS.6 METHOD OF MEASUREMENT. The quantities of Stainless Steel Handrail to be measured for payment shall be the number of linear feet of each type satisfactorily installed, complete, measured in place along the top of rail, from center to center of end posts.

7.55SS.7 PRICE TO COVER

The contract price bid per linear foot for STAINLESS STEEL RAILINGS will cover the cost of all labor, materials, plant, equipment, insurance, and necessary incidentals required to furnish and install new steel pipe railing including angles, bars, bolts, nuts, washers, fasteners, and all other fittings and hardware necessary to erect the stainless steel guide rail, complete in place; furnish samples for testing, as may be required; and completing the work; all in accordance with the Contract Drawings, the specifications and the directions of the Engineer.

Payment will be made under:

Item No.	Item	Pay Unit
7.55SS	STAINLESS STEEL RAILING	L.F.

SECTION 7.70 TPR - TEMPORARY PEDESTRIAN RAMP

(NOT A PAY ITEM)

7.70TPR.1. INTENT.

This section describes the work of providing Temporary Pedestrian Ramps (TPRs) near new pedestrian construction work areas and the ADA guidelines. TPRs should provide access to sidewalk routes when pedestrian ramps are not accessible due to construction activities going on or around pedestrian ramps.

The work shall consist of furnishing, installation, maintaining, relocating, and removing temporary pedestrian ramps in order to access sidewalk areas as shown on the Contract Drawings or where otherwise directed by the Engineer.

TPR shall consist of temporary pedestrian ramp units having a geometry similar to that shown on the contract drawings, as directed the Engineer and complying with the following requirements:

a. TPR running slope must not exceed 1:12 ramp slope, which equals 4.8 degrees slope or one foot of wheelchair ramp for each inch of rise. For instance, a 30 inch rise requires a 30 foot handicap wheelchair ramp.

b. Cross slope must not exceed 1:48.

c. Handrails must be provided on both sides if rise is more than 6 inches.

d. A minimum 5' x 5' flat, unobstructed area at the top and bottom of the ramp

e. A Minimum width of 36 inches of clear space across the wheelchair ramp.

f. Maximum run of 30 feet will be allowed ramp before a rest or turn platform.

g. Ramp handrail height will be between 34" and 38" in height on both sides of the wheelchair ramps.

h. The TPR must allow for normal street drainage.

Note: At areas with grass strips, ramp to be located at closest concrete walk or driveway by means of ground level decking on grass connecting to the concrete sidewalk or driveway etc.

7.70TPR.2. MATERIALS AND METHODS.

1. LUMBER TPR: Lumber should have a slip-resistant surface. Use pressure treated wood for most of the wood material. Lumber must be preservative-treated southern pine, grade #2 or better. Pressure treated lumber must resists rot and decay with level of treatment as per American Wood Council latest standards. Decking board for the TPR will be at a minimum 2” thick.

2. ALUMINUM TPR: Aluminum should be high traction (e.g., textured extruded aluminum surface), dock plate with a coefficient of friction not less than 0.5 and made from high strength, lightweight aluminum; it should be slip-resistant and have a self-adjusting ground transition plate. The Ramp, Step, and Platform system is designed to be a rigid, free-standing structure. All footplates should be fastened securely to a concrete surface or 12” minimum diameter footings in order to achieve full structural integrity. Footing depth will depend on local building code.

Fastening all platforms to the building or modular building with lag screws is highly recommended.

3. FIBERGLASS/PLASTIC TPR: Fiberglass/ Plastic ramps should be able to take minimum wheelchairs, foot traffic etc., not less than 550 lbs., should be ADA compliant and adapts to varying curb heights from minimum of 2.5” to 7”. Should be anti-slip with high visibility surface and must be bolted for maximum stability and security. Coefficient of friction will not be less than 0.5.

All ramp handrails and ramp guardrails are designed to withstand a concentrated load of 200 pounds applied in any direction on the top of the rail.

All Ramp handrails are designed to be continuous along ramp runs and in between the inside corner of 90 degree and 180 degree turns in ramp direction. Handrails are not interrupted by posts or other obstructions.

Platforms and landings will be designed to carry a uniform live load of 100 pounds per square foot and a concentrated vertical load of 300 pounds in an area of one square foot.

Walking surfaces for serial number 1, 2 and 3 above must be designed to have a coefficient of friction no less than 0.50 in all directions of travel.

7.70TPR.3. METHODS.

All units shall be in good condition and acceptable to the Engineer.

The Contractor shall install the TPR by placing them where shown on the Contract Drawings, specifications and as directed by the Engineer. All the modular ramps will be assembled as per manufacturer’s instructions.

If the modular ramps are pre-assembled and transported to their locations, Contractor shall use utmost care in the delivery and installation of these units.

Units can also be fabricated/constructed at site with the approval of the Engineer.

Contractor shall continuously maintain the TPR, where shown on the Contract Drawings or directed by the Engineer, until ordered by the Engineer to remove the completion of a work stage. Should a unit or units of barricades become damaged or otherwise unacceptable to the Engineer, the Contractor shall replace said units within twenty-four (24) hours of notice by the Engineer, at no additional cost to the City.

7.70TPR.4. MEASUREMENT AND PAYMENT.

The price of Temporary Pedestrian Ramp (TPR) shall be deemed included in the prices bid for all the scheduled contract items.

The Section below supersedes and replaces Sections 8.01, 8.01 C1, 8.01 C2, 8.01H, 8.01S, 8.01W1, & 8.01 W2 of NYC DOT Standard Specifications dated May 16, 2022

SECTION RHCR 8.01 HANDLING, TRANSPORTING, AND DISPOSAL OF POTENTIAL AND IDENTIFIED CONTAMINATED AND HAZARDOUS MATERIALS

RHCR 8.01.1 DESCRIPTION. This Section provides common references and requirements for **Sections RHCR 8.01 C1, RHCR 8.01 C2, RHCR 8.01H, RHCR 8.01S, RHCR 8.01W1**, and **RHCR 8.01 W2.**

RHCR 8.02.1 MATERIALS. None.

RHCR 8.03.1 METHODS.

(A) NYCDEP Limitations for Discharge to Sewer

NYCDEP Bureau of Wastewater Treatment – Limitations for Effluent to Sanitary or Combined Sewers

Parameter[1]	Daily Limit	Units	Sample Type	Monthly Limit
Non-polar material[2]	50	mg/l	Instantaneous	---
pH	5-11	SU's	Instantaneous	---
Temperature	< 150	Degree F	Instantaneous	---
Flash Point	> 140	Degree F	Instantaneous	---
Cadmium	2 0.69	mg/l mg/l	Instantaneous Composite	--- ---
Chromium (VI)	5	mg/l	Instantaneous	---
Copper	5	mg/l	Instantaneous	---
Lead	2	mg/l	Instantaneous	---
Mercury	0.05	mg/l	Instantaneous	---
Nickel	3	mg/l	Instantaneous	---
Zinc	5	mg/l	Instantaneous	---
Benzene	134	ppb	Instantaneous	57
Carbontetrachloride	---	---	Composite	---
Chloroform	---	---	Composite	---
1,4 Dichlorobenzene	---	---	Composite	---
Ethylbenzene	380	ppb	Instantaneous	142
MTBE (Methyl-Tert-Butyl-Ether)	50	ppb	Instantaneous	---
Naphthalene	47	ppb	Composite	19
Phenol	---	---	Composite	---
Tetrachloroethylene (Perc)	20	ppb	Instantaneous	---
Toluene	74	ppb	Instantaneous	28
1,2,4 Trichlorobenzene	---	---	Composite	---
1,1,1 Trichloroethane	---	---	Composite	---
Xylenes (Total)	74	ppb	Instantaneous	28
PCB's (Total)[3]	1	ppb	Composite	---
Total Suspended Solids (TSS)	350[4]	mg/l	Instantaneous	---
CBOD[5]	---	---	Composite	---
Chloride[5]	---	---	Instantaneous	---
Total Nitrogen[5]	---	---	Composite	---
Total Solids[5]	---	---	Instantaneous	---

Notes for table above:

1. All handling and preservation of collected samples and laboratory analyses of samples must be performed in accordance with 40 C.F.R. pt. 136. If 40 C.F.R. pt. 136 does not cover the pollutant in question, the handling, preservation, and analysis must be performed in accordance with the latest edition of "Standard Methods for the Examination of Water and Wastewater." All analyses must be performed using a detection level less than the lowest applicable regulatory discharge limit. If a parameter does not have a limit, then the detection level is defined as the least of the Practical Quantitation Limits identified in NYSDEC's Analytical Detectability and Quantitation Guidelines for Selected Environmental Parameters, December 1988.

2. Analysis for ***non-polar materials*** must be done by USEPA method 1664 Rev. A. Non-Polar Material will mean that portion of the oil and grease that is not eliminated from a solution containing N–Hexane, or any other extraction solvent the USEPA will prescribe, by silica gel absorption.

3. Analysis for PCBs is required if ***both*** conditions listed below are met:

   a. if proposed discharge ≥ 10,000 gpd;
   b. if duration of a discharge > 10 Days.

   Analysis for PCBs must be done by USEPA method 608 with MDL=<65 ppt. PCB's (total) is the sum of PCB-1242 (Arochlor 1242), PCB-1254 (Arochlor 1254), PCB-1221 (Arochlor 1221), PCB-1232 (Arochlor 1232), PCB-1248 (Arochlor 1248), PCB-1260 (Arochlor 1260) and PCB-1016 (Arochlor 1016).

4. For discharge ≥ 10,000 gpd, the TSS limit is 350 mg/l. For discharge < 10,000 gpd, the limit is determined on a case-by-case basis.

5. Analysis for Carbonaceous Biochemical Oxygen Demand (CBOD), Chloride, Total Solids and Total Nitrogen are required if proposed discharge ≥ 10,000 gpd.

(B) Applicable Regulations

Applicable regulations include, but are not limited to:

1. 49 CFR 100 to 179 - DOT Hazardous Materials Transport and Manifest System Requirements
2. 6 NYCRR 375-6 - NYSDEC Remedial Program Soil Cleanup Objectives
3. 6 NYCRR 360-1 NYSDEC Solid Waste Management Facilities
4. 6 NYCRR 364- Waste Transporter permits
5. Local restrictions on transportation of waste/debris
6. 40 CFR 260 to 272 - Hazardous Waste Management (RCRA)
7. 6 NYCRR 371 - Identification and Listing of Hazardous Wastes
8. 6 NYCRR 372 - Hazardous Waste Manifest System and Related Standards for Generators, Transporters and Facilities
9. 6 NYCRR 373-1 - Hazardous Waste Treatment, Storage and Disposal Facility Permitting Requirements
10. 6 NYCRR 376 - Land Disposal Restrictions
11. Posted weight limitations on roads or bridges
12. Transportation Skills Programs, Inc. 1985 - Hazardous Materials and Waste Shipping Papers and Manifests
13. Other local restrictions on transportation of waste/debris
14. Occupational Safety and Health Administration (OSHA), Standards and Regulations, 29 CFR 1910 (General Industry)
15. OSHA 29 CFR 1910.120 Hazardous Waste Operations and Emergency Response
16. OSHA Safety and Health Standards 29 CFR 1926 (Construction Industry)
17. OSHA 29 CFR 1910.146 Confined Space Entry Standard
18. Standard Operating Safety Guidelines, USEPA Office of Emergency and Remedial Response Publication, 9285.1-03

19. NIOSH / OSHA / USCG / USEPA Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities (1986)
20. U.S. Department of Health and Human Services (DHHS) "NIOSH Sampling and Analytical Methods," DHHS (NIOSH) Publication 84-100
21. ANSI, Practice for Respiratory Protection, Z88.2 (1980)
22. ANSI, Emergency Eyewash and Shower Equipment, Z41.1 (1983)
23. ANSI, Protective Footwear, Z358.1 (1981)
24. ANSI, Physical Qualifications for Respirator Use, Z88.6 (1984)
25. ANSI, Practice for Occupational and Educational Eye and Face Protection, Z87.1 (1968)
26. Water Pollution Control Federation "Manual of Practice No. 1, Safety in Wastewater Works"
27. NFPA No. 327 "Standard Procedures for Cleaning and Safeguarding Small Tanks and Containers"
28. Occupational Safety and Health Act Confined Space Entry Standard 29 CFR 1910.146.87
29. Department of Transportation 49 CFR 100 through 179
30. Department of Transportation 49 CFR 387 (46 FR 30974, 47073)
31. Environmental Protection Agency 40 CFR 136 (41 FR 52779)
32. Environmental Protection Agency 40 CFR 262 and 761
33. Resource Conservation and Recovery Act (RCRA)
34. Any transporter of hazardous or non-hazardous materials must be licensed in the State of New York and all other states traversed in accordance with all applicable regulations.

(C) Definitions

Contaminated Groundwater and Decontamination Fluids: Groundwater within the excavation trench or decontamination water that contains regulated compounds above the NYCDEP Discharge to Sewer Effluent limits.

Disposal or Treatment Facility: A facility licensed to accept either non-hazardous regulated waste or hazardous waste for either treatment or disposal.

Exclusion Zone: Work area that will be limited to access by Contractor personnel specifically trained to enter the work area only. The exclusion zone will be set up to secure the area from the public and untrained personnel. The project health and safety program will apply to all construction personnel including persons entering the work area.

Hazard Assessment: An assessment of any physical hazards that may be encountered on a work site.

Hazardous Soils: Soils that exhibit any of the characteristics of a hazardous waste, namely ignitability, corrosivity, reactivity, and toxicity, as defined in 6 NYCRR Part 371, Section 371.3 and 40 CFR Section 261.

Hazardous Substance Evaluation: An evaluation of the possible or known presence of any hazardous substances that may be encountered on a job site. This evaluation is included in the Health and Safety Plan and will include the identification and description of any hazardous substances expected to be encountered. Material Safety Data Sheets (MSDS) will be included for each substance.

Health and Safety Plan: A plan employed at a work site that describes all the measures that will be taken to assure that all work is conducted in a safe manner, and that the health of the workers and the public will be insured.

Material Handling Plan: A plan outlining the methods that will be employed to handle, transport and dispose of contaminated materials.

Non-Hazardous Contaminated Soils: Soils which exhibit a distinct chemical or petroleum odor or exhibit elevated photoionization detector readings but are not classified as hazardous waste under 6 NYCRR Part 371, Section 371.3 and 40 CFR Section 261.

New York State Health Department's Environmental Laboratory Approval Program: A program by which the state of New York approves and accredits environmental testing laboratories.

PCBs: Polychlorinated biphenyls are a group of toxic compounds commonly used as a coolant in transformers and other electrical components.

Photoionization Detector: A handheld instrument used to measure volatile organic compounds in air. The instrument ionizes the organic molecules through the use of an ultraviolet lamp.

RCRA Hazardous Waste Characteristics: Characteristics of a material which may indicate the material is hazardous. These include ignitability corrosivity, reactivity, and toxicity.

Total Petroleum Hydrocarbons: An analytical procedure used to determine the total amount of petroleum compounds in a material.

(D) Phase I and Phase II Investigation Reports

Red Hook Coastal Resiliency, Remedial Action Plan, Prepared by Core Environmental Consultants, under NV5, June 12, 2024.

RHCR 8.04.1 **MEASUREMENT AND PAYMENT.** No separate payment will be made for complying with the requirements of this Section.

SECTION RHCR 8.01 C1 HANDLING, TRANSPORTING AND DISPOSAL OF NON-HAZARDOUS CONTAMINATED SOIL

RHCR 8.01 C1.1 WORK TO INCLUDE

A. General

This work will consist of the handling, transportation, and disposal of contaminated soils. The materials covered by this specification are soils that are contaminated with petroleum, manufactured gas plant (MGP) wastes, or chemical products but cannot be classified as hazardous waste. For the purpose of this specification, soil will be defined as any material excavated below the pavement (concrete and/or asphalt) and pavement base (concrete and/or asphalt). contaminated soil, or hazardous soil.

Soil to be excavated can be classified as non-contaminated, non-hazardous contaminated soil, or hazardous soil.

Non-contaminated soils are defined as soils **not** exhibiting any of the following characteristics.

- Elevated Photo-Ionization Detector (PID) readings
- Visual evidence of contamination, such as the presence of staining, discoloration
- Petroleum, MGP waste, and/or chemical odors
- Physical evidence of coal ash, municipal solid waste, construction and demolition debris, or dredged spoils.

Non-hazardous contaminated soils are defined as soils exhibiting one or more of the above characteristics. Non-hazardous contaminated soils must be handled, transported, and disposed of in accordance with the specifications for **Section RHCR 8.01**.

PID readings would be considered elevated when evaluated in the context of other field observation of contamination, including visual, olfactory or other physical observations such as proximity to confirmed contamination sources. PID readings in excess of 10 ppm may be indicative of contamination, but higher levels (greater than 50 ppm) may be more appropriate in consideration of these field observations noted above. The determination of appropriate PID readings indicative of contamination will be made by the Engineer and/or their representative to determine if soil is classified as contaminated soils.

Hazardous soils are defined as soils showing exceedances of Toxicity Characteristic Leaching Procedure (TCLP) Regulatory Levels for Hazardous Waste published in Resource Conservation and Recovery Act (RCRA), 6 New York Codes, Rules, and Regulations (NYCRR) Part 371, or 40 Code of Federal Regulations (CFR) Section 261. Hazardous soils must be handled, transported, and disposed of in accordance with the specifications of this section.

This entire specification RHCR 8.01 covers the handling, transportation, and disposal of contaminated soils and hazardous soils only. Non-contaminated soil can be reused at the project site with prior approval by the Engineer, provided it meets other contract requirements. Soil reused on-site must be placed (1) below a structure; (2) beneath a roadbed or other paved area; or (3) in any unpaved areas beneath the soil cap. Soil used for the soil cap must meet the criteria for fill and backfill as required in RHCR 4.11 - Excavation and Filling and the RAP. Non-hazardous contaminated soils and hazardous soil cannot be reused. Excess non-contaminated soil becomes the property of the Contractor.

The Contractor must ensure that all operations associated with the handling, sampling, loading, transportation, and disposal of non-hazardous contaminated soils are in compliance with all applicable Federal, State, and City statutes and regulations.

The Contractor must supply all equipment, material and labor required to conduct the specified work of this Item. The Contractor must document the excavation, handling, transportation and

disposal of non-hazardous contaminated soils with analytical reports, manifests, photos, and clean fill documentation.

B. Request for Approval of Subcontractors

In accordance with Article 17 of the Contract, a subcontractor/subconsultant, such as the Environmental Consultant and the waste hauler, is not permitted to start work until approved by the Engineer. If the Contractor performs work using a subcontractor/subconsultant prior to approval, the Contractor will not be paid for the work performed by that subcontractor/subconsultant and the Contractor may be subject to penalties including, but not limited to, initiation of default proceedings.

The Contractor must submit a completed original Request for Approval of Subcontractors (RFAS) form and all required documents, such as legal identity, project reference list, Corporate Health and Safety Plan (HASP), waste transporter permits, Occupational Safety and Health Administration (OSHA) 10 certification, Hazardous Waste and Emergency Response (HAZWOPER) certification, etc., to the Engineer at least 30 days prior to the scheduled subcontract work start date. The Engineer must then submit the original RFAS to DDC Safety and Site Support, Office of Environmental and Hazmat Services (OEHS) for review and approval. If the RFAS is denied by OEHS, OEHS will issue the final denial and return the original RFAS to the Engineer. If the RFAS is approved by OEHS, OEHS will forward the original RFAS package and an approval memo to the DDC Agency Chief Contracting Officer (ACCO) for further review and approval. The ACCO's Vendor Integrity Unit and Office of Contract Opportunity (OCO) will review the subcontractor/subconsultant's overall business integrity and compliance with the vendor integrity requirements in the PASSPort system, Executive Order 50, Local Law 1, and Minority- and Women-Owned Business Enterprise/ Disadvantaged Business Enterprise (MWBE/DBE) participation as per the Contract. ACCO will issue the final Approval or Denial. The original RFAS will be returned to the Engineer, who will subsequently notify and return the original RFAS to the Contractor.

C. Environmental Consultant

The Contractor must retain an independent Environmental Consultant to obtain all permits, prepare the plans required in the specification RHCR 8.01 and as per DDC issued templates, and perform all field screening, sampling, air monitoring, and other health and safety services. The Contractor is not permitted to self-perform this work. The Environmental Consultant must be approved under the RFAS process and must demonstrate the minimum requirements as set forth below:

1. The Environmental Consultant project supervisor on site and other designated key personnel must have a minimum of three (3) years of experience in the environmental field dealing with issues associated with contaminated/hazardous soils. Such experience must include oversight of environmental investigations, specifically including VOC and dust monitoring services as a routine part of daily operations.
2. The Environmental Consultant must be experienced in work of similar nature, size, and complexity and must have previous experience in working with DDC.
3. The Environmental Consultant must furnish a list of at least five (5) projects completed within the last 3 years, identifying the location, nature of services provided, owner, owner's contact, contact's working telephone number, project duration and value of the projects..

D. Sampling and Analysis

Prior to the performance of soil sampling, the Contractor will submit a Field Sampling Plan (FSP). Soil sampling must not be conducted until OEHS has approved the FSP. The Contractor must conduct sampling and analysis of the impacted soils as specified under **Section RHCR 8.01 C2** – Sampling and Testing of Non-Hazardous Contaminated/Potentially Hazardous Soil for Disposal Purposes. The laboratory results must be forwarded to OEHS for review to determine if the soils would be handled and disposed of as non-hazardous contaminated soils or hazardous soils.

E. Material Handling Plan

At least 45 days prior to the commencement of work, the Contractor must submit to the OEHS for review a Material Handling Plan (MHP). The MHP must be approved by the OEHS prior to the Contractor beginning any soil excavation work. The MHP must, at a minimum, consist of:

1. The Contractor's procedures for identifying non-hazardous contaminated soils during excavation, including the specific model and manufacturer of intended organic vapor monitoring equipment and calibration procedures to be used. It should also include the training and experience of the personnel who will operate the equipment.

2. The Contractor's procedures for safely handling non-hazardous contaminated soils. The procedures must include personnel safety and health as well as environmental protection considerations.

3. For the proposed laboratory for analysis of representative soil samples, provide the following: (a) name, (b) address, (c) telephone number, and (d) New York State Department of Health's (NYSDOH) Environmental Laboratories Accreditation Program (ELAP) status.

4. Identification of the Contractor's proposed waste transporter(s) (hauler). This information must include:

   a) Name and Waste Transporter Permit Number;
   b) Address;
   c) Name of responsible contact for the waste transporter;
   d) Telephone number for the contact;
   e) All necessary permit authorizations for each type of waste transported; and,
   f) Previous experience in performing the type of work specified herein.

5. The name and location of the facility where an off-site scale is located. The Contractor must outline the procedures for controlling trucks leaving the work site and enroute to the off-site scale.

6. All staging/stockpiling areas (if stockpiling areas are intended and available), or alternate procedures that will be used. Alternate procedures may include, but are not limited to, agreements from the intended disposal facilities to accept boring data and/or analytical data previously obtained during the site characterization so that materials may be directly loaded into vehicles for shipment to the disposal facility.

7. A backup facility must be provided, should the staging/stockpile areas become unavailable, insufficient in area, or presented by some other unforeseen difficulty.

8. Identification of the Contractor's two proposed Treatment Storage or Disposal (TSD) facilities for contaminated soils (primary and back-up) for final disposal of the soils. Both primary and backup TSD facilities must be currently state-licensed disposal facilities approved to receive contaminated soil. The information required for each facility must include:

   a. General Information

      i. Facility name and the State identification number;
      ii. Facility location;
      iii. Name of responsible contact for the facility;
      iv. Telephone number for contact;
      v. Signed letter of agreement to accept waste as specified in this Specification. The letter must indicate agreement to handle and accept the specified estimated quantities and types of material during the time period specified in the project schedule and any time extension as deemed necessary; and,
      vi. Unit of measure utilized at disposal facility for costing purposes.

   b. A listing of all permits, licenses, letters of approval, and other authorizations to operate, which are currently held and valid for the proposed facility.

c. A listing of all permits, licenses, letters of approval, and other authorizations to operate which have been applied for by the proposed facility but not yet granted or issued.

d. The Contractor must specify and describe the disposal/containment unit(s) that the proposed facility will use to manage the waste. The Contractor must identify the capacity available in the units and the capacity reserved for the subject waste.

e. The Contractor must provide the date of the proposed facility's last compliance inspection.

f. A list of all active (unresolved) compliance orders (or agreements), enforcement notices, or notices of violations issued to the proposed facility must be provided. The source and nature of the cause of violation must be stated, if known.

9. Description of all sampling and field/laboratory analyses that will be needed to obtain disposal facility approval.

RHCR 8.01 C1.2 MATERIALS

A. The Contractor must provide containers as specified in the United States Department of Transportation (USDOT) regulations.

B. The Contractor must provide polyethylene sheeting, which is to be placed under (20mil. thickness minimum) and over (10 mil. thickness minimum) soil piles.

C. The Contractor must assure that the waste transporter's appropriate choice of vehicles and operating practices are fitted to prevent spillage or leakage of non-hazardous contaminated material during transportation.

D. The Contractor must provide, install, and maintain any temporary stockpiling or loading facilities on site as required until completion of material handling activities. The location and design of any such facilities must be included in the MHP.

RHCR 8.01 C1.3 CONSTRUCTION DETAILS

A. Material Handling

1. Immediately after excavation of non-hazardous contaminated soil, the Contractor must:

a. Load material directly onto trucks/tankers/roll offs for disposal off site; or,

b. If interim stockpiling is required, place non-hazardous contaminated soil on a minimum of 20 mil. polyethylene sheeting and cover it securely by minimum of 10 mil. polyethylene sheeting to protect against cross contamination, airborne dust, leaching or runoff of contaminants into the subsurface, groundwater, or stormwater. Weight or secure the sheeting by appropriate means and seal seams as approved by the DDC to prevent tearing or removal by wind or weather. Grade surrounding surface to provide for positive drainage away from pile. Each stockpile must not exceed 500 cubic yards. Non-hazardous contaminated soils must be stockpiled separately from non-contaminated and hazardous soil at an off-site location approved by DDC or secured on-site by the Contractor, meeting all required Federal, State and Local stipulations. Stockpiles must be at least 800 feet away from any sensitive receptors, such as schools, daycare center, hospitals, nursing homes, etc., and at least 100 feet away from any water body.

2. Institute appropriate procedures and security measures to ensure the protection of site personnel and the public from non-hazardous contaminated materials as described in the approved MHP, Environmental Health & Safety Plan (EHASP), and **Section RHCR 8.01 S - Health and Safety**.

3. Any soil encountered that appears to contain unknown contaminants (based on visual, odor, or other observation), or that vary substantially from the material originally identified must be segregated in stockpiles and the Environmental Consultant promptly notified to collect soil

samples for analysis. Construct stockpiles to the same requirements as stated in subsection (A)(1)(b) above.

4. Provide any dewatering that is necessary to complete the work. Contaminated water must be disposed of in accordance with **Section RHCR 8.01 W1** – Removal, Treatment and Discharge/Disposal of Contaminated Water.

5. Provide and operate field organic vapor test equipment, a PID or a flame ionization detector (FID), to detect general organic vapor levels at intervals of approximately 50 cubic yards of soil excavated, when visual or odor observations indicate the material may substantially differ from the soil previously excavated, and/or as directed by the Environmental Consultant.

B. Off-Site Transportation to Disposal Facility

1. General

a. The Contractor must furnish all labor, equipment, supplies and incidental costs required to transport non-hazardous contaminated material from the work area to the off-site disposal facility, and any other items and services required for transporting non-hazardous contaminated material for disposal at an off-site facility.

b. The Contractor will be responsible for tracking all materials and vehicles from the site to the off-site scale at the final TSD facility.

c. The Contractor must submit to the Engineer the certified tare and gross weight slips for each load received at the accepted facility which must be attached to each returned manifest. These documents must be maintained and kept with project field records.

d. Non-hazardous contaminated soils must be delivered to the disposal or treatment facility within 30 calendar days after excavation.

e. The Contractor must coordinate the schedule for truck arrival and material deliveries at the job site to meet the approved project schedule.

f. The Contractor must inspect all vehicles leaving the project site to ensure that non-hazardous contaminated soils adhering to the wheels or undercarriage are removed prior to the vehicle leaving the site.

g. The Contractor must obtain letters of commitment from the waste haulers and the TSD facility to haul and accept shipments when directed by the Engineer in consultation with OEHS.

h. The Contractor must provide waste profile forms to OEHS for review and approval before transporting non-hazardous contaminated soil to the approved TSD facility.

2. Hauling

a. The Contractor must coordinate manifesting, placarding of shipments, and vehicle decontamination. All quantities must be measured and recorded upon arrival at the disposal facility. If any deviation between the two (2) records occurs, the matter is to be reported immediately to the Engineer and to be resolved by the Contractor to the satisfaction of the Engineer.

b. The Contractor will be held responsible, at its own cost, for any and all actions necessary to remedy situations involving material spilled in transit or mud and dust tracked off-site.

c. The Contractor must ensure that trucks are protected against contamination by properly covering and lining them with polyethylene sheeting or by decontaminating them prior to and between acceptance of loads. Trucks with loaded non-hazardous contaminated soil must be covered securely with tarps before leaving the project site to prevent generation of airborne dust during hauling.

d. The Contractor will be responsible for inspecting the access routes for road conditions, overhead clearance, and weight restrictions.

e. The Contractor must only use the transporter(s) identified in the approved MHP for the performance of work. A revised MHP or an addendum to the original approved MHP must be submitted to OEHS for review and approval at no additional cost to the City for any use of substitute or additional transporters.

f. The Contractor must develop, document, and implement a policy for accident prevention.

g. The Contractor must not combine non-hazardous contaminated materials from other projects with material from this project.

h. No material will be transported until approval by the Engineer is obtained.

3. Off-Site Disposal

a. The Contractor must use only the disposal facility(ies) identified in the approved MHP for the performance of the work. A revised MHP or an addendum to the original approved MHP must be submitted to OEHS for review and approval at no additional cost to the City for any use of substitutions or additions of disposal facilities.

b. The Contractor must be responsible for acceptance of the materials at an approved facility, for ensuring that the facility is properly permitted to accept the stated materials, and for ensuring that the facility provides the stated treatment and/or disposal services.

c. The City reserves the right to contact and visit the TSD facility, and regulatory agencies to verify the agreement to accept the stated materials and to verify any other information provided.

d. In the event that the identified and approved facility ceases to accept the stated materials or the facility ceases operations, it is the Contractor's responsibility to locate an alternate approved and permitted facility(ies) for accepting materials. The alternate facility(ies) must be approved in writing by the Engineer in the same manner and with the same requirements as for the original facility(ies). This must be done at no extra cost or delay to the City.

e. The Contractor must obtain manifest forms and complete the shipment manifest records required by the appropriate regulatory agencies for verifying the material and quantity of each load in unit of volume and weight. Copies of each manifest must be submitted to the Engineer within four (4) business days following shipment, and within three (3) business days after notification of receipt of the facility. The signed manifests must be maintained and kept with the project field records. Any manifest discrepancies must be reported immediately to the Engineer and be resolved by the Contractor to the satisfaction of the Engineer.

4. Equipment and Vehicle Decontamination

a. The Contractor must design and construct a portable decontamination station to be used to decontaminate equipment and vehicles that have been used to handle contaminated soil. The cost for this work will be paid under Item 8.01 S - Health and Safety.

b. Water generated during the decontamination process must be disposed of in accordance with **Section RHCR 8.01 W1** – Removal, Treatment and Discharge/Disposal of Contaminated Water.

RHCR 8.01 C1.4 METHOD OF MEASUREMENT

A. Quantities for contaminated soils will be measured in tons. The tonnage will be determined by off-site truck scales, as per Subsection 8.01 C1(3)(B)(1), that are capable of generating load tickets.

B. Final disposal of hazardous soil will be paid for under Item 8.01 H – Handling, Transporting and Disposal of Hazardous Soil.

C. Disposal of contaminated water will be paid for under Item 8.01 W1 – Removal, Treatment and Discharge/Disposal of Contaminated Water. Backfill will be paid for under its respective item as specified in the Contract Documents.

D. The Environmental Consultant will be paid under Item 8.01 S – Health and Safety.

RHCR 8.01 C1.5 PRICE TO COVER

The unit bid price per ton for Item 8.01 C1 must include the cost of furnishing all labor, materials, equipment plan, and insurance for excavation, handling, transportation, disposal, documentation, fees, permits, loading, stockpiling, hauling, and any other incidentals necessary to complete all the work as specified herein for handling, transporting, and disposal of non-hazardous contaminated soil.

Payment will be made under:

ITEM NUMBER	DESCRIPTION	PAY UNIT
RHCR 8.01 C1	HANDLING, TRANSPORTING AND DISPOSAL OF NON-HAZARDOUS CONTAMINATED SOIL	TONS

The Section below supersedes and replaces Sections 8.01, 8.01 C1, 8.01 C2, 8.01H, 8.01S, 8.01W1, & 8.01 W2 of NYC DOT Standard Specifications dated May 16, 2022

SECTION RHCR 8.01 C2 SAMPLING AND TESTING OF NON-HAZARDOUS CONTAMINATED/POTENTIALLY HAZARDOUS SOIL FOR DISPOSAL PURPOSES

RHCR 8.01 C2.1 WORK TO INCLUDE

A. Description

The work will consist of collecting and analyzing representative samples of soil to be excavated in-situ and/or ex-situ from stockpiles for parameters typically requested by the disposal facilities to determine if the soil to be excavated is suitable for reuse, or to be hauled off-site for disposal purposes as contaminated and/or hazardous soil.

B. Sampling and Laboratory Analysis

1. At least forty-five (45) days prior to the commencement of work, the Contractor's Environmental Consultant must submit an FSP and an Investigation Health and Safety Plan (Investigation HASP) to OEHS for review and approval, prior to conducting the field sampling. The FSP must include, at a minimum, the following information:

    a. Project information;
    b. Description of sample collection methodology for soil which appears to contain contaminants based on PID readings and field observation;
    c. Type of analyses;
    d. Sample preservation and handling;
    e. Training and experience of the personnel who will collect the samples;
    f. Equipment decontamination;
    g. Analytical laboratory's name, address, New York State Department of Health's ELAP certification number, and telephone number;
    h. Map of the project area;
    i. Sample location plan; and,
    j. Chain of Custody.

    The Investigation HASP must identify actual and potential hazards associated with planned sampling field activities and stipulate appropriate health and safety procedures, so as to minimize field personnel exposures to physical, biological, and chemical hazards that may be present in the sampling media. The Investigation HASP must include, at a minimum, the following information:

    a. Project information;
    b. Description of work to be performed;
    c. Names of responsible health and safety personnel;
    d. Worker training;
    e. Job hazard analysis;
    f. Confined Space Entry Plan (if applicable);
    g. Personal monitoring (if applicable);
    h. Community Air Monitoring Plan (CAMP, if applicable);
    i. Personnel Protection Equipment (PPE);
    j. Decontamination;

k. Safety rules;

l. Spill prevention and control, dust control, vapor/odor suppression procedures;

m. Identification of nearest hospital and route; and,

n. Emergency Incident Reporting.

2. The Contractor's Environmental Consultant must collect one (1) grab sample and one (1) composite sample per 500 cubic yards of soil to be excavated in-situ and/or ex-situ from stockpiles. Sample locations must be placed A) throughout or along areas within the project limits, and B) within any portion of the project area that exhibits any of the characteristics described in Section 8.01 C1.1 A (evidence of potential contamination via elevated PID readings, olfactory or visual evidence). For in-situ sampling, each grab soil sample must be collected from either the 6-inch interval above the water table (when encountered), or the 6-inch interval above the bottom of the proposed excavation depth (where recovery allowed), or from the 6-inch interval showing the highest potential for contamination based on field observation. For composite soil sampling, grid sampling must be performed for projects with excavation depth deeper than six (6) feet below grade. Each composite sample must consist of five (5) grab samples and discrete aliquots collected from various intervals along the depth of excavation at each sampling boring location. For stockpiled soils, each composite sample must consist of five (5) grab samples collected from various depths within each soil stockpile, at least two feet below the soil surface. For drummed soil, one (1) composite sample per 10 drums must be collected. Each composite soil sample must consist of one (1) grab sample from each of the 10 drums.

3. Laboratory sampling should include analyses for VOCs, Polycyclic Aromatic Hydrocarbons (PAHs), PCBs, Toxicity Characteristic Leaching Procedure (TCLP) Metals (Resource Conservation and Recovery Act [RCRA] 8), the three RCRA Characteristics, ignitability, reactivity, and corrosivity, and Paint Filter Test. Additionally, should the disposal facility(ies) require specific analyses to accept material, the additional analyses should be included at no additional cost to the City.

4. Should the Contractor seek to remove non-contaminated excess soils from the site, the Contractor will be required to coordinate the Beneficial Use Determination (BUD) with NYSDEC prior to moving the soils in accordance with the 6 New York Code, Rules, and Regulations (NYCRR) Parts 360.12 and 360.13. The Contractor must keep the Engineer informed of the approval status and removal schedule of any and all soils being removed from the site which are not going to an approved disposal facility.

5. The quality of the data from the sampling program is the Contractor's responsibility. The Contractor must furnish all qualified personnel, materials, equipment and instruments necessary to carry out the sampling. Unless directed otherwise, all sampling procedures must follow the NYSDEC sampling guidelines and protocols. All sampling must be conducted by a qualified person trained in sampling protocols using standard accepted practices for obtaining representative samples.

6. Each grab and composite sample must be analyzed for all parameters required by disposal facilities accepting contaminated and hazardous soil, in addition to any specific criteria a sample is being analyzed for.

7. All sample containers must be marked and identified with legible sample labels, which must indicate the project name, sample location and/or container, the sample number, the date and time of sampling, preservatives utilized and other information that may be useful in determining the character of the sample. Chain-of-custody must be tracked from laboratory issuance of sample containers through laboratory receipt of the samples.

8. The Contractor must maintain a bound sample logbook. The Contractor must provide the Engineer access to it at all times and must turn it over to the Engineer in good condition at the completion of the work. The following information, at a minimum, must be recorded to the log:

a. Sample identification number;

b. Sample location;

c. Field observation;

d. Sample type;

e. Analyses;

f. Date/time of collection;

g. Collector's name;

h. Sample procedures and equipment utilized; and,

i. Date sent to laboratory and name of laboratory.

9. The City reserves the right to direct the Contractor to conduct alternative sampling in lieu of the parameters described in subsection 8.01 C2(1)(B)(4) if the situation warrants. The substitute sampling parameters will be of equal or lesser monetary value than those described in subsection 8.01 C2(1)(B)(4), as determined by industry laboratory pricing standards.

10. Only dedicated sampling equipment may be used to collect these samples. All equipment involved in field sampling must be decontaminated before being brought to the sampling location and must be properly disposed after use.

11. The Contractor's Environmental Consultant must prepare a Field Sampling Result Report (FSSR), tabulate the analytical results, and compare the data to the applicable NYSDEC Part 375.6 SCOs and TCLP for Hazardous Waste published in RCRA and 6 NYCRR Part 371, or 40 CFR Section 261. If the soil is to be disposed of in a disposal facility outside of the State of New York, the soil sampling data must also be compared to the applicable regulatory criteria established by the state in which the disposal facility is located. The FSSR, with the tabulated tables and laboratory analytical data, must be submitted to OEHS for review and approval prior to any soil reuse or disposal activities.

12. Soils exceeding any of the hazardous characteristic criteria meet the legal definition of hazardous soils (rather than non-hazardous contaminated soils) and must be transported or disposed of under Item 8.01 H – Handling, Transporting and Disposal of Hazardous Soil. All analyses must be done by a laboratory that has received approval from the ELAP for the methods to be used. The Contractor must specify the laboratory in the MHP.

13. The Contractor must contact the disposal facility where the waste will be sent for permanent disposal, and arrange to collect any additional samples required by the facility. The cost associated with additional sampling and testing must be included in the bid price of this Item.

RHCR 8.01 C2.2 METHOD OF MEASUREMENT

Quantities for samples must be measured as the number of sets of samples that are tested. A set will be defined as one (1) grab and one (1) composite samples per 500 cubic yards to be analyzed for the full range of parameters as specified in subsection 8.01 C2(1)(B)(3).

RHCR 8.01 C2.3 PRICE TO COVER

The unit price bid per set for Item 8.01 C2 will include the cost of furnishing all labor, materials, equipment, plan, and insurance necessary for sampling, handling, transporting, testing, documentation, fees, permits, and any other incidentals necessary to complete the work as specified herein for in-situ and ex-situ soil sampling and analysis for waste disposal parameters.

Payment will be made under:

Item No.	Description	Pay Unit
RHCR 8.01 C2	SAMPLING AND TESTING OF CONTAMINATED/POTENTIALLY HAZARDOUS SOIL FOR DISPOSAL PURPOSES	SETS

SECTION RHCR 8.01 H HANDLING, TRANSPORTING AND DISPOSAL OF HAZARDOUS SOIL

RHCR 8.01 H.1 WORK TO INCLUDE

A. General

This work will consist of the handling, transportation, and disposal of hazardous soils, which are defined as soils showing exceedances of TCLP for Hazardous Waste published in RCRA, 6 NYCRR Part 371, or 40 CFR Section 261. Hazardous soil can also be contaminated soils, as defined in **Section RHCR 8.01 C1**, but must be handled, transported, and disposed of as hazardous soil under **Section RHCR 8.01 H**, in accordance with the specifications herein. For the purpose of this specification, soil will be defined as any materials excavated below the pavement and base for pavement. Soil will also be defined as any material excavated from wetlands and/or wetlands adjacent areas, or any areas that are not covered with hard pavement (e.g., concrete, asphalt), such as grass or dirt areas.

The Contractor must ensure that all operations associated with the handling, sampling, loading, transportation, and disposal of hazardous materials are in compliance with the applicable Federal, State, and Local statutes and regulations, including Local Law 72 which becomes effective upon discovery of a TCLP lead exceedance. A sampling report, along with the executive summary, must be transmitted to OEHS within 48 hours of discovery to post on DDC website, as required by Local Law 72.

The Contractor must supply all equipment, material and labor required to conduct the specified work under this section. The Contractor must document the excavation, handling, sampling, and testing, transportation, and disposal of hazardous soils. The City must be listed in the disposal documents as the waste generator.

The Contractor must decontaminate all equipment prior to its removal from the exclusion zone and/or following contact with hazardous materials, as detailed in **Section RHCR 8.01 S** - Health and Safety. Water generated during the decontamination process must be disposed of under **Section RHCR 8.01 W1** – Removal, Treatment and Discharge/Disposal of Contaminated Water.

The Contractor must retain an Environmental Consultant, meeting the requirements specified in **Section RHCR 8.01 C1**, and the Contractor is not permitted to self-perform this work. The Environmental Consultant must conduct sampling for laboratory analysis of soil to be excavated to determine whether the soil is contaminated and/or hazardous.

Hazardous soils are defined as soils showing exceedances of Toxicity Characteristic Leaching Procedure (TCLP) Regulatory Levels for Hazardous Waste published in Resource Conservation and Recovery Act (RCRA), 6 New York Codes, Rules, and Regulations (NYCRR) Part 371, or 40 Code of Federal Regulations (CFR) Section 261. Hazardous soils must be handled, transported, and disposed of in accordance with the specifications of this section.

All work under **Section RHCR 8.01 H** must be performed under the direct supervision of the Contractor's Environmental Consultant, as approved by the OEHS.

B. Material Handling Plan:

At least 45 days prior to the commencement of work, the Contractor must submit to the OEHS for review an MHP. The MHP must be approved by the OEHS prior to the Contractor beginning any soil excavation work. The MHP must, at a minimum, consist of:

1. The Contractor's procedures for identifying hazardous soils during excavation, including the specific model and manufacturer of intended organic vapor monitoring equipment and calibration procedures to be used. It should also include the training and experience of the personnel who will operate the equipment.
2. The Contractor's procedures for safely handling hazardous soils or soils which have not yet been tested but are believed to be potentially hazardous. The procedures must include personnel safety and health, as well as environmental protection considerations.
3. Name, address, NYSDOH ELAP status and telephone number of the proposed laboratory for analysis of representative soil samples.

4. Identification of the Contractor's proposed waste transporter(s).This information must include:
    1. Name and Waste Transporter Permit Number;
    2. Address;
    3. Name of responsible contact for the waste transporter;
    4. Telephone number for the contact;
    5. All necessary permit authorizations for each type of waste transported; and,
    6. Previous experience in performing the type of work specified herein.
5. The name and location of the facility where an off-site scale is located. The Contractor must outline the procedures on controlling trucks leaving the work site and enroute to the off-site scale.
6. All staging/stockpiling areas (if stockpiling areas are intended and available), or alternate procedures that will be used. Alternate procedures may include, but are not limited to, agreements from the intended disposal facilities to accept boring data and/or analytical data previously obtained during the site characterization so that materials may be directly loaded into vehicles for shipment to the disposal facility.
7. A backup facility must be provided, should the staging/stockpile areas become unavailable, insufficient in area or not be present by some other unforeseen difficulty.
8. Identification of the Contractor's two proposed Treatment Storage or Disposal (TSD) facilities for hazardous soils (primary and back-up) for final disposal of the hazardous soils. Both primary and backup TSD facilities must be currently USEPA or State-approved RCRA TSD facilities for hazardous soils. The information required for each facility must include:
    a. General Information
        i. Facility name and the USEPA identification number;
        ii. Facility location;
        iii. Name of responsible contact for the facility;
        iv. Telephone number for contact;
        v. Signed letter of agreement to accept waste as specified in this Specification. The letter must indicate agreement to handle and accept the specified estimated quantities and types of material during the time period specified in the project schedule and any time extension as deemed necessary; and,
        vi. Unit of measure utilized at disposal facility for costing purposes.
    b. A listing of all permits, licenses, letters of approval, and other authorizations to operate, which are currently held and valid for the proposed facility.
    c. A listing of all permits, licenses, letters of approval, and other authorizations to operate which have been applied for by the proposed facility but not yet granted or issued.
    d. The Contractor must specify and describe the disposal/containment unit(s) that the proposed facility will use to manage the waste. The Contractor must identify the capacity available in the units and the capacity reserved for the subject waste.
    e. The Contractor must provide the date of the proposed facility's last compliance inspection under RCRA.

f. A list of all active (unresolved) compliance orders (or agreements), enforcement notices, or notices of violations issued to the proposed facility must be provided. The source and nature of the cause of violation must be stated, if known.

9. Description of all sampling and field/laboratory analyses that will be needed to obtain disposal facility approval.

RHCR 8.01 H.2 MATERIALS

A. The Contractor must provide containers as specified in the USDOT regulations.

B. The Contractor must provide polyethylene sheeting, which is to be placed under (20 mil. thickness minimum) and over (10 mil. thickness minimum) soil piles.

C. The Contractor must assure that the waste transporter's appropriate choice of vehicles and operating practices are fitted to prevent spillage or leakage of contaminated material during transportation.

D. The Contractor must provide, install, and maintain any temporary stockpiling or loading facilities on site as required until completion of material handling activities. The location and design of any such facilities must be included in the MHP.

RHCR 8.01 H.3 CONSTRUCTION DETAILS

A. Material Handling

1. Immediately after excavation of hazardous soil, the Contractor must:

a. Load material directly onto drums/trucks/tankers/roll offs for disposal off site. Containers must be labeled as hazardous soil while being held for disposal; or

b. If interim stockpiling is required, place hazardous soil on a minimum of 20 mil. polyethylene sheeting and cover it securely with polyethylene sheeting a minimum of 10 mil. to protect against cross contamination, airborne dust, leaching or runoff of contaminants into the subsurface, groundwater, or stormwater. Weight or secure the sheeting by appropriate means and seal seams as approved by the Engineer to prevent tearing or removal by wind or weather. Grade surrounding surface to provide for positive drainage away from pile. Each stockpile must not exceed 500 cubic yards. Hazardous soils must be stockpiled separately from uncontaminated and contaminated soil at an off-site location approved by the Engineer or secured on-site by the Contractor, meeting all required Federal, State and Local stipulations. Stockpiles must be labelled as hazardous soil and situated at least 800 feet away from any sensitive receptors, such as schools, daycare center, hospitals, nursing homes, etc., and at least 100 feet away from any water body.

2. Institute appropriate procedures and security measures to ensure the protection of site personnel and the protection of the public from hazardous soils as described in the approved MHP, EHASP, and **Section RHCR 8.01 S** – Environmental Health and Safety.

3. Any soil encountered that appears to contain unknown contaminants (based on visual, odor, or other observation), or that vary substantially from the material originally identified must be segregated in stockpiles and the Environmental Consultant promptly notified to collect soil samples for analysis. Construct stockpiles to the same requirements as stated in subsection (A)(1)(b) above.

4. Provide any dewatering that is necessary to complete the work. Contaminated water must be disposed of in accordance with **Section RHCR 8.01 W1** – Removal, Treatment and Discharge/Disposal of Contaminated Water.

5. Provide and operate field organic vapor test equipment, a PID or an FID, to detect general organic vapor levels at intervals of approximately 50 cubic yards of soil excavated, when visual or odor observations indicate the material may substantially differ from the soil previously excavated and/or as directed by the Environmental Consultant.

C. Off-Site Transportation to Disposal Facility

1. General

   a. The Contractor must furnish all labor, equipment, supplies and incidental costs required to transport hazardous material from the work area to the off-site disposal facility, and any other items and services required for transporting hazardous material for disposal at an off-site facility.

   b. The Contractor is responsible for obtaining the USEPA hazardous waste generator identification number for the City. The application must be submitted to OEHS for review and approval prior to submission to USEPA. The Contractor must prepare the annual hazardous waste report for the project and submit to the NYSDEC and USEPA.

   c. The Contractor will be responsible for tracking all material/vehicles from the site to the off-site scale and to the approved disposal facility.

   d. The Contractor must provide to the Engineer certified tare and gross weight slips for each load received at the accepted facility which must be attached to each returned manifest. These documents must be maintained and kept with project field records.

   e. Hazardous soils must be delivered to the disposal or treatment facility within 30 calendar days after excavation.

   f. The Contractor must coordinate the schedule for truck arrival and material deliveries at the job site to meet the approved project schedule.

   g. The Contractor must inspect all vehicles leaving the project site to ensure that hazardous soils adhering to the wheels or undercarriage are removed prior to the vehicle leaving the site.

   h. The Contractor must obtain letters of commitment from the waste haulers and the TSD facility to haul and accept shipments.

   i. The Contractor must provide waste profile forms to OEHS for review and approval before transporting hazardous soil to the approved TSD facility.

2. Hauling

   a. The Contractor must coordinate manifesting, placarding of shipments, and vehicle decontamination. All quantities must be measured and recorded upon arrival at the disposal facility. If any deviation between the two records occurs, the matter is to be reported immediately to the Engineer and be resolved by the Contractor to the satisfaction of the Engineer.

   b. The Contractor will be responsible, at its own cost, for any and all actions necessary to remedy situations involving material spilled in transit or mud and dust tracked off-site.

   c. The Contractor must ensure that trucks are protected against contamination by properly covering and lining them with polyethylene sheeting or by decontaminating them prior to and between acceptance of loads. Trucks with loaded hazardous soil must be covered securely with tarp before leaving the project site to prevent generation of airborne dust during hauling.

   d. The Contractor will be responsible for inspecting the access routes for road conditions, overhead clearance, and weight restrictions.

   e. The Contractor must only use the transporter(s) identified in the approved MHP for the performance of work. Only a transporter with a current Part 364 Waste Transporter Permit from NYSDEC may transport hazardous soil. A revised MHP or an addendum to the original approved MHP must be submitted to OEHS for review and approval at no additional cost to the City for any use of substitute or additional transporters.

   f. The Contractor must develop, document, and implement a policy for accident prevention.

g. The Contractor must not combine hazardous materials from other projects with material from this project.

h. No material will be transported until approval by the Engineer is obtained.

3. Off-Site Disposal

a. The Contractor must use only the disposal facility(ies) identified in the approved MPH for the performance of the work. A revised MHP or an addendum to the original approved MHP must be submitted to OEHS for review and approval at no additional cost to the City for any use of substitutions or additions of disposal facility.

b. The Contractor will be responsible for acceptance of the materials at an approved facility, for ensuring that the facility is properly permitted to accept the stated materials, and for ensuring that the facility provides the stated treatment and/or disposal services.

c. The City reserves the right to contact and visit the TSD facility and regulatory agencies to verify the agreement to accept the stated materials and to verify any other information provided.

d. In the event that the identified and approved facility ceases to accept the stated materials or the facility ceases operations, it is the Contractor's responsibility to locate an alternate approved and permitted facility(ies) for accepting materials. The alternate facility(ies) must be approved in writing by the Engineer in the same manner and with the same requirements as for the original facility(ies). This must be done at no extra cost or delay to the City.

e. The Contractor must obtain manifest forms, and complete the shipment manifest records required by the appropriate regulatory agencies for verifying the material and quantity of each load in unit of volume and weight. Copies of each manifest must be submitted to the Engineer within four (4) business days following shipment, and within three (3) business days after notification of receipt of the facility. The signed manifests must be maintained and kept with the project field records. Any manifest discrepancies must be reported immediately to the Engineer and be resolved by the Contractor to the satisfaction of the Engineer.

f. The Contractor must submit all results and weights to the Engineer.

g. The Contractor is responsible to pay all fees associated with the generation and disposal of all excavated hazardous waste. These fees include, but are not limited to, the New York State Department of Finance and Taxation (DFT) quarterly fees for hazardous waste and the NYSDEC annual hazardous waste regulatory fee program. The Contractor must submit a copy of proof of payment to the Engineer and OEHS.

4. Equipment and Vehicle Decontamination

a. The Contractor must design and construct a portable decontamination station to be used to decontaminate equipment and vehicles that have been used to handle hazardous soil. The cost for this work will be paid under Item 8.01 S - Health and Safety.

b. Water generated during the decontamination process must be disposed of in accordance with **Section RHCR 8.01 W1** – Removal, Treatment, and Discharge/Disposal of Contaminated Water.

RHCR 8.01 H.4 METHOD OF MEASUREMENT

A. Quantities for hazardous soils will be measured in tons. The tonnage will be determined by off-site truck scales, as per Subsection 8.01 H3(C)(1)(C), that are capable of generating load tickets.

B. Final disposal of non-contaminated soil will be paid for under Item 8.01 C1 – Handling, Transporting and Disposal of Non-Hazardous Contaminated Soil.

C. Disposal of decontamination water will be paid for under Item 8.01 W1 – Removal, Treatment and Discharge/Disposal of Contaminated Water.

D. Backfill will be paid for under its respective item as specified in the contract document.

E. The Environmental Consultant will be paid under Item 8.01 S – Health and Safety.

RHCR 8.01 H.5 PRICE TO COVER

The unit bid price bid per ton for Item 8.01 H will include the cost of furnishing all labor, materials, equipment, plan, and insurance for excavation, handling, transportation, disposal, documentation, fees, permits, loading, stockpiling, hauling, and any other incidentals necessary to complete all the work as specified herein for handling, transporting, and disposal of hazardous soil.

Payment will be made under:

Item No.	Description	Pay Unit
RHCR 8.01 H	HANDLING, TRANSPORTING, AND DISPOSAL OF HAZARDOUS SOIL	TONS

SECTION RHCR 8.01 S HEALTH AND SAFETY

RHCR 8.01 S.1 WORK TO INCLUDE

Health and Safety Requirements

A. Scope of Work

It is the Contractor's responsibility to stage and conduct the Contractor's work in a safe manner. The Contractor must implement an EHASP for non-hazardous contaminated or hazardous soil intrusive activities as set forth in OSHA Standards 1910.120 and 1926.650-652. The Contractor must ensure that all workers have at a minimum hazard awareness training. The Contractor must segregate contaminated work area in secured exclusion zones. These zones must limit access to Contractor personnel specifically trained to enter the work area. The exclusion zone must be set up to secure the area from the public and untrained personnel. The project health and safety program will apply to all construction personnel including persons entering the work area. In addition, the Contractor must protect the public from on-site hazards, including subsurface contaminants associated with on-site activities. The EHASP must be signed off by a Certified Industrial Hygienist and reviewed and approved by OEHS.

Work must include, but not be limited to:

1. Implementation of a baseline medical program.
2. Providing safety equipment and protective clothing for site personnel, including maintenance of equipment on a daily basis; replacement of disposable equipment as required; decontamination of clothing, equipment and personnel; and providing all other health and safety measures.
3. Providing, installing, operating and maintaining on-site emergency medical first aid equipment as specified in this section for which payment is not provided under other pay items in this Contract.
4. Providing, installing, operating, maintaining and decommissioning all equipment and personnel decontamination facilities specified within this section, including, but not limited to, the decontamination pad, decontamination water supply, decontamination water collection equipment and all other items and services required for the implementation of the health and safety requirements for which pay items are not provided elsewhere in this Contract.
5. Provide the minimum health and safety requirements for excavation activities within the limits of this Contract.
6. Implement and enforce an EHASP: The EHASP as presented in these specifications is dynamic with provisions for change to reflect new information, new practices or procedures, changing site environmental conditions or other situations which may affect site workers and the public. The EHASP will also address measures for community protection, accident prevention, personnel protection, emergency response/contingency planning, air monitoring, odor control and hazardous chemicals expected on site. Providing a Confined Space Entry Program as defined in the Occupational Safety and Health Act, Confined Space Entry Standard, 29 CFR 1910.146.

B. Environmental Consulting Services

The Contractor must retain an Environmental Consultant to obtain all permits and perform all field screening, air monitoring, community air monitoring, soil and water sampling, and health and safety services.

1. If conditions within the exclusion zone are deemed hazardous, then the Contractor and its Environmental Consultant must ensure that all personnel working within identified exclusion zones and/or involved (direct contact) with the handling, storage or transport of hazardous and contaminated materials must have completed a minimum of forty (40) hours of Health and

Safety Training on Hazardous Waste Sites in accordance with 29 CFR 1910.120(e). The training program must be conducted by a qualified safety instructor. If conditions in the exclusion zone are deemed to be non-hazardous, the Environmental Consultant must provide site specific training.

2. The Contractor must ensure that on-site management and supervisors directly responsible for or who supervise employees engaged in hazardous waste operations must receive the training specified in above and at least eight (8) additional hours of specialized training on managing such operations at the time of job assignment.

C. Submittals

1. The Contractor must submit a written EHASP, as specified herein, to OEHS for review and approval. The written EHASP must be submitted, within thirty (30) calendar days after the availability of analytical results of the soil and groundwater testing, as required under **Section RHCR 8.01 C2** and **Section RHCR 8.01 W2**. The Contractor must make all necessary revisions required by OEHS and resubmit the EHASP to OEHS for acceptance. Start-up work for the project will not be permitted until written acceptance has been issued by OEHS.

2. Daily safety logs must be maintained by the Contractor and must be submitted to the Engineer either on request or on completion of the work. Training logs must be maintained by the Contractor and submitted to the Engineer either on request or on completion of the work. Daily logs on air monitoring during excavation activities must be prepared and maintained by the Contractor and submitted to the Engineer either on request or upon completion of the work.

3. A closeout report must be submitted by the Contractor to the Engineer upon completion of the work within the defined exclusion zones. This report must summarize the daily safety and monitoring logs and provides an overview of the Contractor's performance regarding environmental and safety issues. The report must carefully document all areas where contamination has been found including pictures, addresses of locations, and potential sources.

4. Medical Surveillance Examinations: The Contractor must submit to the Engineer the name, office address and telephone number of the medical consultant utilized. Evidence of baseline medical examinations together with the evidence of the ability to wear National Institute for Occupational Safety and Health (NIOSH) approved respirators (as specified in American National Standards Institute (ANSI) Z88.6) must be provided to the Engineer for all construction personnel who are to enter the exclusion zones.

5. Accident Reports: All accidents, spills, or other health and safety incidents must be reported to the Engineer.

D. Health and Safety Plan

The EHASP must comply with OSHA regulations 29 CFR 1910.120/1926.65. This document must at a minimum contain the following:

1. Description of work to be performed
2. Site description
3. Key personnel
4. Worker training procedures
5. Work practices and segregation of work area
6. Hazardous substance evaluation
7. Hazard assessment
8. Personal and community air monitoring procedures and action levels
9. Personal protective equipment

10. Decontamination procedures
11. Safety rules
12. Emergency procedures
13. Spill prevention and control, as well as spill reporting procedures
14. Dust control, vapor/odor suppression procedures
15. Identification of the nearest hospital and route
16. Confined space procedures
17. Excavation safety procedures

RHCR 8.01 S.2 MEASUREMENT

Health and Safety Requirements

A. 25% of the lump sum price will be paid when the following items are implemented or mobilized:

Medical surveillance program

Health and safety training

Health and safety plan

Environmental and personnel monitoring

Instrumentation

Spill control

Dust control

Personnel and equipment decontamination facilities

Personnel protective clothing

Communications

Mobilization

B. 50% will be paid in proportional monthly amounts over the period of work.

C. 25% will be paid when the operation is demobilized and removed from the project site.

RHCR 8.01 S.3 PRICE TO COVER

Health and Safety Requirements

The lump sum price bid for the health and safety requirements will include all labor, materials, equipment, and insurance necessary to complete the work in accordance with these specifications. The price bid will include, but not be limited to, the following:

A. Providing training, safety personnel, air monitoring and medical examinations as specified.

B. Providing safety equipment and protective clothing for site personnel, including maintenance of equipment on a daily basis; replacement of disposable equipment as required; decontamination of clothing, equipment and personnel; and all other health and safety activities or costs not paid for under other pay items in this Contract.

C. Providing, installing, operating and maintaining on-site emergency medical and first aid equipment. This includes all furnishings, equipment, supplies and maintenance of all medical equipment, and all other health and safety items and services for which payment is not provided under other pay items in this Contract.

D. Providing, installing, operating, maintaining, and decommissioning all personnel and equipment decontamination facilities, including decontamination pad, decontamination water supply, and all other items and services required for the implementation of the health and safety requirements for which pay items are not provided elsewhere in this Contract. Vehicle decontamination pads will be included in the price of this item. Disposal of decontamination fluid will be paid for under Item 8.01 W1 – Removal, Treatment, and Discharge/Disposal of Contaminated Water.

E. Spill Control

1. Payment will account for furnishing, installing, and maintaining all spill control equipment and facilities. Payment will include equipment and personnel to perform emergency measures required to contain any spillage and to remove spilled materials and soils or liquids that become contaminated due to spillage during work within the exclusion zones and handling of excavated soils and liquids from these areas. This collected spill material will be properly disposed of.

2. Payment under this item will not include testing, handling, transportation or disposal of petroleum-contaminated/potentially hazardous soils excavated during construction. The price for this work will be paid for under Items 8.01 C1 – Handling, Transporting and Disposal of Non-Hazardous Contaminated Soil, 8.01 C2 – Sampling and Testing of Contaminated/Potentially Hazardous Soil for Disposal Purposes or 8.01 H – Handling, Transporting and Disposal of Hazardous Soil, as appropriate.

F. Dust Control

Payment will account for furnishing, installing, and maintaining dust control equipment and facilities to be used whenever applicable dust levels are exceeded. Payment will include all necessary labor, equipment, clean water, foam, and all other materials required by the Dust Control Plan. The NYSDOH Community Air Monitoring Plan (CAMP) may be used as guidance.

G. Vapor/Odor Suppression

Payment will account for furnishing, installing and maintaining vapor/odor control equipment and facilities to be used whenever organic vapor monitoring or the presence of odors indicates that vapor suppression is required to protect workers or the public. Payment will include all necessary labor, equipment, clean water, foam and all other materials required by the Vapor/Odor Suppression Plan.

H. Mobilization/Demobilization

1. Mobilization

Payment will include the following, but not be limited to:

a. All work required to furnish, install and maintain all signs, fencing, support zone facilities, parking areas and all temporary utilities;

b. All work required to furnish, install, and maintain an office space with phone and utilities for health and safety personnel;

c. All work required for complete preparation of lay down area for roll-off containers, including sampling, and any required fencing;

d. All direct invoiced cost from bonding companies and government agencies for permits and costs of insurance; and

e. All other items and services required for mobilization and site preparation.

2. Demobilization

Payment will include but not be limited to: All work required to sample the area; remove from the site all equipment, temporary utilities and supporting facilities; performance of necessary decontamination and repairs; disposal of disposable equipment and protective gear and other items and services required for complete demobilization.

Payment will be made under:

Item No.	Description	Pay Unit
RHCR 8.01 S	HEALTH AND SAFETY	LUMP SUM

RHCR 8.01 W1 REMOVAL, TREATMENT, AND DISCHARGE/DISPOSAL OF CONTAMINATED WATER

RHCR 8.01 W1.1 WORK TO INCLUDE

General: This work must consist of the proper removal and disposal of all contaminated groundwater and decontamination water generated during construction operations. The Contractor must be solely responsible for the proper disposal or discharge of all contaminated water generated at the job site. The Contractor will have the option of treating water on-site for discharge to the sewer system or removing contaminated water for off-site disposal. The Contractor must be responsible to choose a method compatible to the construction work and will be compensated on a per day basis regardless of method employed. The Contractor will be compensated for only those days where the system is in full operation.

The Contractor must retain a dewatering/water treatment Specialist (hereinafter the “Specialist”) and laboratory as specified under **Section RHCR 8.01 W2** – Sampling and Testing of Contaminated Water, to conduct any testing that may be required for disposal of impacted water.

The dewatering/water treatment Specialist is responsible to obtain all permits; perform all water sampling, testing; and provide ancillary services related to dewatering and water treatment. The Specialist must at a minimum provide documentation to OEHS demonstrating the minimum requirements as set forth below:

1. The Specialist must demonstrate that it has, at a minimum, three (3) years’ experience in the design of dewatering plans. The Specialist should demonstrate expertise dealing with issues associated with contaminated water. During that three (3) year period, the Specialist must demonstrate that it provided dewatering and water treatment systems as a routine part of its daily operations.
2. The Specialist must be experienced in work of this nature, size, and complexity and must have previous experience in working with the NYSDEC.
3. The Specialist must furnish a list of at least five (5) projects completed within the last (3) years, identifying the location, nature of services provided, owner, owner’s contact, contact’s telephone number, project duration and value of the projects.
4. If conditions within the exclusion zone are deemed hazardous, then the Contractor and its Environmental Consultant must ensure that all personnel working within identified exclusion zones and/or involved (direct contact) with the handling, storage or transport of hazardous and contaminated material must have completed a minimum of forty (40) hours of Health and Safety Training on Hazardous Waste Sites in accordance with 29 CFR 1910.120(e). The training program must be conducted by a qualified safety instructor. If conditions in the exclusion zone are deemed to be non-hazardous, the Specialist will be responsible to provide site-specific training to its employees and other affected personnel.
5. The Contractor must ensure that on-site management and supervisors directly responsible for or who supervise employees engaged in hazardous waste operations must receive the training specified in above and at least eight (8) additional hours of specialized training on managing such operations at the time of job assignment.

The Contractor must document all operations associated with the handling, sampling and disposal of contaminated water, and ensure that they are in compliance with applicable Federal, State and Local statutes and regulations.

The Contractor must supply all labor, equipment, transport, plant, material, treatment, and other incidentals required to conduct the specified work of this section.

If water will be disposed of into the sewer system, the Contractor must ensure the Specialist treats the water to comply with the New York City Department of Environmental Protection (NYCDEP) Sewer Effluent Limit concentrations prior to discharge. The Contractor is responsible for providing settling or

filtering tanks and any other apparatus required by NYCDEP. Alternatively, the Contractor can provide a plan for transport and disposal at an off-site waste disposal facility.

Within forty-five (45) calendar days after award of Contract, the Contractor must submit to OEHS for review and approval, a Water Handling Plan (WHP). The WHP must be approved by OEHS prior to the Contractor's commencement of work. The minimum requirements for the WHP are specified herein Item 8.01W 1.2, for each type of disposal (disposal into the sewer or off-site disposal). The Contractor must maintain a complete, up to date copy of the WHP on the job site at all times.

RHCR 8.01 W1.2 CONSTRUCTION DETAILS

For each disposal method the Contractor proposes to utilize (disposal to sewer or off-site disposal), the WHP must include the information required in paragraphs A and B below, as appropriate.

A. On-site treatment and discharge into New York City sewers.

1. Regulations: The Contractor must comply with all applicable regulations. This includes but may not be limited to:

   Title 15-New NYCDEP Sewer Use Regulations.

2. Permits: The Contractor is solely responsible to obtain all necessary and appropriate Federal, State and Local permits and approvals. The Contractor will be responsible for performing all and any system pilot tests required for permit approval. This includes but may not be limited to:

   a. Industrial waste approval for the New York City sewer system.

   b. Groundwater discharge permit for the New York City sewer system (NYCDEP Division of Sewer Regulation and Control), if discharge to sewer exceeds 10,000 gallons per day.

   c. The Contractor must comply with NYSDEC State Pollutant Discharge Elimination System (SPDES) General Permit for Stormwater Runoff from Construction Activity ~~(~~SPDES General Permit~~)~~ GP-0-20-001 or its successor.

   d. Long Island well permit for Brooklyn and Queens sites, if well points are used for dewatering.

   e. Wastewater quality control application, NYCDEP.

3. The WHP for this portion of the work must include the following at a minimum:

   a. Identification and design of Contractor's proposed treatment to assure that the water meets the NYCDEP sewer use guidelines prior to discharge to the sewer, including identification of all materials, procedures, settling or filtering tanks, filters and other appurtenances proposed for treatment and disposal of contaminated water.

   b. The name, address and telephone number of the contact for the Contractor's proposed chemical laboratory, as well as the laboratory's certifications under Federal, State or non-governmental bodies.

   c. The name, address and telephone number of the contact for the Contractor's proposed Environmental Consultant.

   d. Copies of all submitted permit applications and approved permits the Contractor have received.

4. Materials

   The Contractor must supply all settling or filtering tanks, pumps, filters, treatment devices and other appurtenances for treatment, temporary storage and disposal of contaminated water. All equipment must be suitable for the work described herein.

5. Execution

a. The Contractor is solely responsible for disposal of all water, in accordance with all Federal, State and Local regulations.

b. The Contractor is solely responsible for any treatment required to assure that water discharged into the sewer is in compliance with all permits and Federal, State and Local statutes and regulations.

c. The Contractor is solely responsible for the quality of the water disposed of into the sewers.

d. The Contractor is responsible for sampling and testing of water for the NYCDEP Sewer Effluent Limit concentrations. The quality of the data is the Contractor's responsibility. Any sampling and testing must be conducted and paid in accordance with **Section RHCR 8.01 W2** – Sampling and Testing of Contaminated Water.

e. The Contractor will be responsible to maintain the discharge rate to the sewer such that all permit requirements are met, the capacity of the sewer is not exceeded and no surcharging occurs downstream due to the Contractor's actions. Dewatering by means of well points or deep wells will not be allowed in the Boroughs of Brooklyn or Queens where the rate of pumping exceeds forty-five (45) gallons per minute unless the appropriate permit has been secured from the NYSDEC.

f. Disposal of Treatment Media

(1) The Contractor will be responsible for disposal or recycling of treatment media in accordance with all Federal, State and Local regulations.

(2) The Contractor must provide the Engineer with all relevant documentation concerning the disposal of treatment media, including manifests, bills of lading, certificates of recycling or destruction and other applicable documentation.

(3) **Disposal of treatment media will not be considered a separate pay item; instead it will be considered as incidental work thereto and included in the unit price bid.**

B. Off-Site Disposal

1. Regulations: The Contractor must conform to all applicable Federal, State and Local regulations pertaining to the transportation, storage and disposal of any hazardous and/or non-hazardous materials as listed in Attachment 2.

2. The following must be submitted to the Engineer prior to initiating any off-site disposal:

a. (1) Name and waste transporter permit number

(2) Address

(3) Name of responsible contact for the waste transporter

(4) Any and all necessary permit authorizations for each type of waste transported

(5) Previous experience in performing the type of work specified herein

b. General information for each proposed treatment/disposal facility and at least one backup treatment/disposal facility

(1) Facility name and USEPA identification number

(2) Facility location

(3) Name of responsible contact for the facility

(4) Telephone number for contact

(5) Unit of measure utilized at facility for costing purposes

c. A listing of all permits, licenses, letters of approval and other authorizations to operate, which are currently held and valid for the proposed facility as they pertain to receipt and management of the wastes derived from this Contract.

d. A listing of all permits, licenses, letters of approval and other authorizations to operate which have been applied for by the proposed facility but not yet granted or issued. Provide dates of application(s) submitted. Planned submittals must also be noted.

e. The Contractor must specify and describe the disposal/containment unit(s) that the proposed facility will use to manage the waste and provide dates of construction and beginning of use, if applicable. Drawings may be provided. The Contractor must identify the capacity available in the units and the capacity reserved for the subject waste.

f. The Contractor must provide the date of the proposed facility's last compliance inspection.

g. A list of all active (unresolved) compliance orders, agreements, enforcement notices or notices of violations issued to the proposed facility must be submitted. The source and nature of the cause of violation must be stated, if known. If groundwater contamination is noted, details of the facility's groundwater monitoring program must be provided.

h. Description of all sampling and field/laboratory analyses that will be needed to obtain disposal facility approval.

3. Materials

All vessels for temporary storage and transport to an off-site disposal facility must be as required in DOT regulations.

4. Execution

a. General

(1) The Contractor must organize and maintain the material shipment records/manifests required by Federal, State and Local laws. The Contractor must include all bills of lading, certificates of destruction, recycling or treatment and other applicable documents.

(2) The Contractor must coordinate the schedule for truck arrival and material deliveries at the job site to meet the approved project schedule. The schedule must be compatible with the availability of equipment and personnel for material handling at the job site.

(3) The Contractor must inspect all vehicles leaving the project site to ensure that contaminated liquids are not spilling and are contained for transport.

(4) The Contractor must obtain letters of commitment from the waste haulers and the treatment, disposal or recovery facility to haul and accept shipment. The letter must indicate agreement to handle and accept the specified estimated quantities and types of material during the time period specified in the project schedule and any time extension as deemed as necessary.

(5) The Contractor must verify the volume of each shipment of water from the site.

(6) The Contractor is responsible for sampling and testing of water for off-site disposal. The quality of the data is the Contractor's responsibility. Any sampling and testing must be conducted and paid in accordance with **Section RHCR 8.01 W2** – Sampling and Testing of Contaminated Water.

(7) The Contractor is responsible for any additional analyses required by the TSD facility, and for the acceptance of the water at an approved TSD facility.

b. Hauling

(1) The Contractor must not deliver waste to any facility other than the TSD facility(ies) listed on the shipping manifest.

(2) The Contractor must coordinate manifesting, placarding of shipments, and vehicle decontamination. All quantities must also be measured and recorded upon arrival at the TSD facility(ies). If any deviation between the two records occurs, the matter is to be reported immediately to the Engineer and must be resolved by the Contractor to the satisfaction of the Engineer.

(3) The Contractor will be responsible for any and all actions necessary to remedy situations involving material spilled in transit or mud and dust tracked off-site. This cleanup must be accomplished at the Contractor's expense.

(4) The Contractor will be responsible for inspecting the access routes for road conditions, overhead clearance and weight restrictions.

(5) The Contractor must only use the transporter(s) identified in the WHP for the performance of work. Only a transporter with a current Part 364 Waste Transporter Permit from NYSDEC may transport this material. Any use of substitute or additional transporters must have previous written approval from the Engineer at no additional cost to the City.

(6) The Contractor must develop, document, and implement a policy for accident prevention.

(7) The Contractor must not combine waste materials from other projects with material from this project.

(8) The Contractor must obtain for the City a hazardous waste generator identification number and will sign the manifest as the generator, if necessary.

(9) No material must be transported until approved by the Engineer.

c. Disposal Facilities

(1) The Contractor must use only the TSD facility(ies) identified in the WHP for the performance of the work. Substitutions or additions must not be permitted without prior written approval from OEHS, and, if approved, must be at no extra cost to the City.

(2) The Contractor will be responsible for acceptance of the material at an approved TSD facility, for ensuring that the facility is properly permitted to accept the stated material, and that the facility provides the stated storage and/or disposal services.

(3) The City reserves the right to contact and visit the disposal facility and regulatory agencies to verify the agreement to accept the stated material and to verify any other information provided. This does not in any way relieve the Contractor of the Contractor's responsibilities under this Contract.

(4) In the event that the identified and approved facility ceases to accept the stated materials or the facility ceases operations, it is the Contractor's responsibility to locate an alternate approved and permitted facility(ies) for accepting materials. The Contractor is responsible for making the necessary arrangements to utilize the facility(ies), and the alternate facility(ies) must be approved in writing by the Engineer in the same manner and with the same requirements as for the original facility(ies). This must be done with no extra cost or delay to the City.

d. Equipment and Vehicle Decontamination

(1) The Contractor must design and construct a portable decontamination station to be used to decontaminate equipment and vehicles exiting the exclusion zone. The cost for this work will be paid under Item 8.01 S – Health and Safety.

RHCR 8.01 W1.3 METHOD OF MEASUREMENT

The quantity for on-site treatment and discharge or off-site disposal will be on a per day basis.

RHCR 8.01 W1.4 PRICE TO COVER

A. The per day price bid for Item 8.01 W1 will include the cost of furnishing all labor, materials, equipment, plan, and insurance for handling, transportation, disposal, documentation, permits, hauling, mobilization and demobilization, and any other incidentals thereto to complete the work.

B. The Contractor will not be paid for water that is within the NYCDEP Sewer Discharge Limits.

Payment will be made under:

Item No.	Description	Pay Unit
RHCR 8.01 W1	REMOVAL, TREATMENT AND DISCHARGE/DISPOSAL OF CONTAMINATED WATER	DAY

RHCR 8.01 W2 SAMPLING AND TESTING OF CONTAMINATED WATER

RHCR 8.01 W2.1 WORK TO INCLUDE

A. Description

The work will consist of sampling and testing of potentially contaminated groundwater, surface runoff within the excavated area and all contaminated water generated during the decontamination process.

B. Sampling and Testing

1. The Contractor is responsible, at a minimum, for sampling and testing of contaminated water for the NYCDEP Sewer Effluent Limit concentrations as listed in Attachment 1, and in accordance with the Engineer-approved FSP and the Investigation HASP, as specified in **Section RHCR 8.01 C2**. The quality of the data is the Contractor's responsibility. Any additional testing required by the Federal, State and/or disposal facilities must be included in the bid price of this Item.
2. All sampling and testing must be conducted by a person trained in sampling protocols using accepted standard practices and/or the NYSDEC sampling guidelines and protocols.
3. All sample containers must be marked with legible sample labels which must indicate the project name, sample location and/or container, the sample number, the date and time of sampling, preservatives utilized, how the sample was chilled to 4 degrees Celsius, and other information that may be useful in determining the character of the sample.
4. Chain-of-custody must be tracked from laboratory issuance of sample containers through receipt of the samples.
5. The Contractor must maintain a bound sample log book. The Contractor must provide the Engineer access to it at all times and must turn it over to the Engineer in good condition at the completion of the work. The following information, as a minimum, must be recorded to the log:
    a. Sample identification number
    b. Sample location
    c. Field observation
    d. Sample type
    e. Analyses
    f. Date/time of collection
    g. Collector's name
    h. Sample procedures and equipment used
    i. Date sent to laboratory/name of laboratory
6. Only dedicated sampling equipment may be used to collect these samples. All equipment involved in field sampling must be decontaminated before being brought to the site, and must be properly disposed of after use.
7. Samples must be submitted to the Contractor's laboratory within the holding times for the parameters analyzed.
8. All analyses must be done by a laboratory that has received approval from the NYSDOH's ELAP for the methods to be done. The Contractor must specify the laboratory in the WHP.
9. Analytical results for water discharged to the sewer and for off-site disposal must be submitted to the Engineer no later than five (5) days after sample collection.

10. The City reserves the right to direct the Contractor to conduct alternative sampling in lieu of the parameters described above, if the situation warrants. The substitute sampling parameters will be of equal or lesser monetary value than those described above, as determined by industry laboratory pricing standards.

RHCR 8.01 W2.2 METHOD OF MEASUREMENT

Quantities for samples will be measured as the number of sets of samples that are tested for the NYCDEP Sewer Effluent Limit concentrations. A set will be defined as one (1) representative sample analyzed for the full range of NYCDEP parameters as specified in Attachment 1.

RHCR 8.01 W2.3 PRICE TO COVER

The unit price bid per set for Item 8.01 W2 will include the cost of furnishing all labor, materials, equipment, plan, and insurance for handling, transport, sampling, testing, documentation, permits, other incidentals necessary to complete the work of sampling and testing of contaminated water. Any additional costs incurred by the Contractor for sampling and testing of contaminated water will be included in the bid price of this Item.

Payment will be made under:

Item No.	Description	Pay Unit
RHCR 8.01 W2	SAMPLING AND TESTING OF CONTAMINATED WATER	SETS

SECTION 9.13 HD - HIGH-DENSITY POLYETHYLENE DRAINAGE PIPE

9.13HD.1 INTENT

This section describes the furnishing and installation of High-Density Polyethylene Pipe (HDPE) and all its components as part of this project, as shown on the Contract Drawings and as directed by the Engineer.

All work of connecting and joining to other pipes or drainage structures, including, but not limited to, connecting pieces, and excavation, bedding and backfill, must be deemed to be included under this item.

9.13HD.2 MATERIALS

(A) Pipe: HDPE pipe must have a full circular cross-section, with a corrugated exterior wall and a smooth inner wall (waterway). Corrugations may be either annular or spiral. HDPE pipe must be made from virgin polyethylene compounds that conform to the requirements as defined and described in ASTM D 3350, except that carbon content should not exceed 4%. All pipe and pipe connections must be soil-tight and must made by the same manufacturer to ensure compatibility of materials.

(B) Fittings: Pipe fittings must not reduce or impair the overall integrity or function of the pipe line. Fittings may be either molded or fabricated. Common corrugated fittings include in-line joint fittings, such as couplers, and branch or complimentary assembly fittings such as tees, and end caps, etc. These fittings may be installed by various methods, such as snap-on, screw on, bell and spigot, and wrap around. Couplings must provide sufficient longitudinal strength to preserve pipe alignment and prevent separation at the joints. Only fittings supplied or recommended by the pipe manufacturer must be used to ensure compatibility of materials. Where recommended by manufacturer, a neoprene or rubber gasket must be supplied for joint fittings. All pipe fittings and pipe connections must be soil-tight.

9.13HD.3 SUBMITTALS

Contractor must submit for Engineer's approval product data and installation details for HDPE pipe, pipe fittings, and connections.

9.13HD.4 METHODS

(A) Installation of the pipe must be in accordance with ASTM Recommended Practice D 2321, unless specified otherwise in the Contract Documents.

(B) Installation:

(1) Install and maintain proper Erosion and Sediment Control Measures during construction, as directed by the Engineer, to avoid clogging of the pipes. During the progress of the work, the exposed ends of the pipe must be provided with approved temporary covers fitted to the pipe so as to exclude earth and other materials.

(2) Trench excavation must be to a minimum depth of 6" below the outside bottom of the pipe. Unless otherwise directed, the trench must be fully excavated for its

entire length before any pipes are laid therein. Refer to Contract Drawings for pipe inverts. Where trench bottom is unstable, the Contractor must excavate to a depth as required by the Engineer and replace with suitable material as specified by the Engineer. Width of trench must be as per pipe manufacturer's recommendations.

(3) Place a 6" minimum depth of bedding material. Bedding material must be compacted select granular fill; for select granular fill gradation requirements, see **Section 4.11.3.(C)** of the NYCDOT Standard Highway Specifications.

(4) Pipe damaged from handling or any cause whatsoever, whether in or out of the trench, must be replaced and removed from the site of the work by and at the sole expense of the Contractor.

(5) Lay HDPE pipe as per manufacturer's recommendations over bedding material. All pipe must be laid in reasonably close conformity to line and grade and must have a full, firm and even bearing at each joint and along the entire length of pipe. Joint misalignment must not result in offsets, in the interior smooth liner, greater than one-quarter (1/4") inch. Pipe laying must begin at the downstream end and progress upstream. Any single run of pipe, excluding end sections, must consist wholly of the same type material unless otherwise directed by the Engineer. No section of pipe used must be less than three (3') feet in length. Keep trenches dry during pipe laying.

(6) Provide for and install all joints, couplings, fittings, rings and connections as per manufacturers' instructions and applicable ASTM and ANSI standards. Clean joint contact surfaces immediately prior to joining. Use lubricants, primers, or adhesives as recommended by the pipe or joint manufacturer.

(7) Initial backfill material must be select granular fill and must envelope the pipe, under the haunches and around the sides up to a minimum height of six (6") inch above the pipe, and compacted in six inch (6") layers. Trench and backfill width must be as per manufacturer's recommendations.

(8) Any sediment which enters pipes during construction must be removed within 24 hours.

(9) Prior to project completion, and as directed by Engineer, the Contractor must clean pipes by removing all accumulated sediment and debris.

(10) Do not remove Erosion and Sediment Control measures until site is fully stabilized.

9.13HD.5 MEASUREMENT

The quantity of High-Density Polyethylene Pipe in the diameter noted to be paid for under this Item must be the number of linear feet (laying length) of HDPE pipe and fittings, measured horizontally along the center line of the pipe, installed to the satisfaction of the Engineer.

9.13HD.6 PRICE TO COVER

The contract price bid must be a unit price per linear foot of High-Density Polyethylene Pipe in the diameter noted, furnished and installed as shown on the Contract Drawings and must include the cost of all labor, materials, equipment, insurance, and incidentals necessary to complete the work, including, but

not limited to, excavation of all materials of whatsoever nature encountered (except the excavation of boulders in open cut and ledge rock); furnishing and installing bedding, sheeting and bracing, backfilling; cleaning up; furnishing and installing pipe and fittings; and connecting and joining pipe to other pipes or drainage structures; all in accordance with the Contract Drawings, the specifications and directions of the Engineer.

Payment will be made under:

Item No.	Item	Pay Unit
9.13 HD	6" HIGH-DENSITY POLYETHYLENE DRAINAGE PIPE	L.F.
9.13 HD4	4" HIGH-DENSITY POLYETHYLENE DRAINAGE PIPE	L.F.

S - PAGES

SPECIAL PROVISIONS

NOTICE

THE PAGES CONTAINED HEREIN (S-PAGES) ARE GENERAL SPECIAL PROVISIONS AND PROJECT SPECIFIC PROVISIONS THAT SHALL APPLY TO AND BECOME A PART OF THE CONTRACT.

(NO TEXT ON THIS PAGE)

TABLE OF CONTENTS

ARTICLE	DESCRIPTION	PAGE NO.
A1.	LINES AND GRADES	1
A2.	SPECIFIC TRAFFIC STIPULATIONS	1
A3.	HOLIDAY CONSTRUCTION EMBARGO	1
A4.	CONTRACT ITEMS THAT INCLUDE BACKFILL AS A PART OF THEIR WORK.	2
A5.	ACCELERATED PROJECT SCHEDULE AND COMBINATION OF STAGES	2
A6.	DISPOSAL OF EXCESS EXCAVATED	2
A7.	NO EXTENSION OF TIME FOR WINTER SHUT-DOWN	2
A8.	PRIVATE UTILITY HARDWARE ADJUSTMENTS.	2
A9.	SURVEY MONUMENTS	2
A10.	RESTORATION OF ADJACENT AREAS	2
A11.	FLAGGERS.	3
A12.	FUEL COST.	3
A13.	NYCDPR CONSTRUCTION PERMITS AND OTHER REQUIREMENTS.	3
A14.	START OF CONTRACT WORK	4
A15.	STANDARD WORKING HOURS	4
A16.	TREE BARRIERS.	4
A17.	UTILITIES.	4
A18.	HOUSE CONNECTIONS.	4
A19.	STREET LIGHT AND TRAFFIC SIGNAL.	4
A20.	SAW CUT.	5
A21.	PRE-CONSTRUCTION STAGE.	5
A22.	EXISTING SEWERS, WATER AND APPURTENANCE.	5
A23.	RECONNECTING EXISTING SEWERS TO NEW MANHOLES	5
A24.	VIBRATION MONITORING.	5
A25.	CITY ASSETS.	6
A26.	“AS-BUILT” DRAWINGS FOR WATER MAINS AND APPURTENANCES 24-INCHES (600- MM.) AND LARGER.	6
A27.	NO ADDITIONAL PAYMENT	7
A28.	SHEETING AND EXCAVATION AT TRANSIT FACILITIES	7
A29.	ARCHAEOLOGICAL DISCOVERIES	7
A30.	USE OF CITY WATER	8
A31.	PUBLIC DISSEMINATION OF INFORMATION	8
A32.	PRICES TO INCLUDE.	9

(A) GENERAL PROVISIONS

A1. LINES AND GRADES. The Contractor must furnish lines and grades in accordance with Section 1.06.27 of the NYCDOT Standard Highway Specifications, except that survey controls established for this project may no longer exist and the Contractor will be required to re-establish the survey control information using official Borough Survey Control Monuments and Bench Marks, where they exist. The Contractor must check with Topographic Section of the Borough President's Office as to the reliability and accuracy of the data to be used for lines and grades.

A2. SPECIFIC TRAFFIC STIPULATIONS. Under this contract, the Contractor must perform the work in strict accordance with the requirements of Section 6.70 in the Standard Highway Specifications, specific traffic stipulations as called for on the plans, Office of Construction Mitigation and Coordination (OCMC) Traffic Stipulations attached to the end of these Special Provisions, and the directions of the Engineer. In case of a conflict, the Engineer's decision will be final.
The Contractor must plan and schedule the work in order to accommodate all special events listed in the NYCDOT Special Events Annual Calendars. The calendars are available at the following link:

https://nycdot.sharepoint.com/:f:/s/publicshare/Ei2XN4G99_JFkdrtjD_cJ0QBtSPr2xhVrApcqAs1KSLpeA?e=j276PF

In addition, the cost of compliance with requirements of the OCMC Traffic Stipulations, unless otherwise provided for, will be deemed included in the prices bid for all scheduled items..

A3. HOLIDAY CONSTRUCTION EMBARGO. A special Holiday Construction Embargo will be in effect on the Friday of the week preceding Thanksgiving Day week from 6:00 AM to 11:59 PM and again from the Monday of Thanksgiving Day week from 6:00 AM through January 2, at 11:59 PM. Roadway and sidewalk construction activities will be restricted during the embargo period on the streets listed below*.

Any permits issued prior to the date of this notice, for work during this embargo period on the streets listed below* which do not already have the permit stipulation "410" are hereby suspended for the period noted above. All permittees must comply with this embargo unless a special waiver is granted by OCMC. Waiver requests must be filed at least thirteen days before Thanksgiving Day, in the Permit Office by filing a "Request for Roadway/Sidewalk Permits During "Embargo Periods" and submitting supporting documentation. Waiver requests should only be submitted for critical reasons for a specific project. If a waiver is granted, the applicant will be notified so they can apply for the approved permits. Waivers **are not** required for ongoing Building Construction Activity Permits which already include the "410" permit stipulation. Waiver request forms may be obtained at any Permit Office or on the Department of Transportation's website at:
http://www.nyc.gov/html/dot/downloads/pdf/holidayembapp.pdf
Prior to this embargo period all necessary measures must be taken so that all roadways and sidewalks are in proper condition to allow for the expeditious and safe movement of vehicular, bicycle and pedestrian traffic. Tool carts, cable reels, containers, and material stored on roadways must be removed during the embargo period.

The opening of utility access covers is prohibited on any of the streets noted below** between the hours of 6:00 AM and midnight unless the utility or Contractor files for an Emergency Authorization Number as required by Section 2-07 of the Department of Transportation's Highway Rules. The planned opening of utility access covers may occur during the hours of 12:01 AM and 5:59 AM where no authorization number is required.

Temporary restoration of the streets and sidewalks and removal thereof, if required for the Holiday Embargo period, will be paid for under the appropriate scheduled items.

No extension of time due to the shutdown period will be granted to the Contractor for completion of the work.

*** Please note that this embargo only applies to NYCDOT construction permits.**
**** List of street and maps of the affected locations are available by borough on the Department of Transportation's website at: http://www.nyc.gov/html/dot/html/motorist/trafalrt.shtml**

A4. CONTRACT ITEMS THAT INCLUDE BACKFILL AS A PART OF THEIR WORK. The following will pertain to all contract items that have backfill as a part of their work: Backfilling will comply with Subsection 4.11.3 of the Standard Specifications and no additional payment will be made for any Highway or Street Lighting work item requiring Contractor to furnish additional fill material to meet these requirements when backfilling.

A5. ACCELERATED PROJECT SCHEDULE AND COMBINATION OF STAGES. Contractor will plan and/or stage his/her work schedule using all hours/days available. Contractor is advised that all applicable unit prices will include, for the purpose of this contract, all overtime costs, premium time costs, shift differentials required to complete construction within the specified "Time(s) of Completion" stipulated in this contract.

Contractor will be permitted to accelerate this project, to combine stages and/or work sequences. Any such changes will be shown in the construction schedule, to be furnished in accordance with the General Provisions of the Standard Specifications.

A6. DISPOSAL OF EXCESS EXCAVATED MATERIAL. All excess excavated material, with the exception of contaminated material, will become the property of the Contractor and will be properly disposed of away from the site, at the Contractor's expense. Contaminated material will be disposed of separately in accordance with contract requirements.

A7. NO EXTENSION OF TIME FOR WINTER SHUT-DOWN. Where the Contractor's approved work schedule for installing sidewalk, curb, roadway base and/or pavement falls within the winter period of December 1st through April 1st, the Contractor will NOT be granted an extension of time for completion of this contract due to the winter shut-down period, unless otherwise provided in Schedule A.

A8. PRIVATE UTILITY HARDWARE ADJUSTMENTS. will be performed by the owning utility company or its agent, at its expense. The Contractor must notify the utility company 72 hours prior to start of work at each location where its hardware requires adjustment.

A9. SURVEY MONUMENTS. When working in the vicinity of survey monument the Contractor will hand excavate per Item 8.02 AB-S, 8.02 A and 8.02 B (as applicable), at City Survey Monuments, for a distance of five (5) feet around each monument, as directed by the Engineer.

A10. RESTORATION OF ADJACENT AREAS. The Contractor will be required to remove all form work. In planting strip areas, the Contractor will be required to restore areas damaged as a result of the Contractor's operations, to the satisfaction of the Engineer, with sod. The Contractor will also, as directed by the Engineer, make safe adjacent areas to the Contractor's work, such as: restoring missing or damaged pavement markings that were removed or damaged as a result of the Contractor's operations (as per requirements of Section 6.44 in the Standard Specifications); resetting granite blocks in tree pits; and, applying binder mixture (Item 4.02 CA or as applicable) where badly broken sidewalk or curb may create a dangerous condition just outside his area of operation, where and when directed by the Engineer.

All restoration work must be performed to the satisfaction of the Engineer.

A11. FLAGGERS. The Contractor is notified that wherever the Item No. “6.52” and words “flagger”, “flagperson” and “flagman” are used in the contract documents and drawings it will mean the Item No. “6.52 CG” and the words “Crossing Guard”, respectively.

A12. FUEL COST. The Contractor is notified that the fuel cost per gallon used in the formula under Sub-Article 26.2.8 of the Standard Construction Contract for Extra Work will be derived from the fuel price index for the United States East Coast published weekly by the United States Energy Information Administration (“USEIA”), and available on its website at **http://www.eia.gov/petroleum/gasdiesel/.** The USEIA-published cost per gallon for the applicable fuel on the East Coast for the week in which the first day of each calendar quarter during the contract term occurs (i.e., January 1st, April 1st, July 1st and September 1st) will be used in the reimbursement formula for all **Extra Work** invoiced that was performed during that calendar quarter. Should the USEIA stop publishing this fuel price index, the fuel cost per gallon will be determined by reference to a substitute index to be agreed upon by the Contractor and the City.

A13. NYCDPR CONSTRUCTION PERMITS AND OTHER REQUIREMENTS.

1. At least thirty (30) days prior to the upcoming start of construction at or near the New York City Department of Parks and Recreation (NYCDPR) land , the Contractor is required to issue a notice to NYCDPR about the start of construction activity. At least 30 days in advance of the Order to Work Date, the Contractor must notify the New York City Department of Parks and Recreation (NYCDPR) of the upcoming start of construction by emailing interagency@parks.nyc.gov.

2. Parks Construction Permits are required for all work on Parkland. Construction Permits may also be required for work on sidewalks adjacent to Parks properties or other areas maintained by NYCDPR such as Greenstreets depending on the scope of work. It is the Contractor’s responsibility to coordinate with Parks via email at **interagency@parks.nyc.gov** to establish whether Construction Permits are required for the contract scope of work.

3. The Contractor will not be permitted to store, stage, stockpile, barricade, lay down construction materials or equipment, or otherwise impede access to Parkland, Greenstreets, or sidewalks in the right-of-way fronting Park properties unless such permission is granted by NYCDPR via issuance of a Parks Construction Permit.

4. The Contractor must obtain the necessary Parks Construction Permit from NYCDPR prior to the start of work on Parkland or areas under Parks’ jurisdiction. The Construction Permit application is found online at https://www.nycgovparks.org/permits/construction.

5. When no Construction Permit is required, the contactor must notify Parks at interagency@parks.nyc.gov at least one week in advance of any construction adjacent to Greenstreets or in the right-of-way fronting Parks properties to allow for coordination as needed.

6. The Contractor is responsible for the protection of any Greenstreets, sidewalks, and other landscape features under NYCDPR jurisdiction that are adjacent to or enclosed by the construction area, including hardscape, landscape, shrubs, and trees. Any areas and features disturbed or damaged during construction activity are the responsibility of the Contractor to restore and repair.

7. Many NYCDPR properties are indicated on the publicly accessible online mapping resource of the New York City Department of Information Technology and Telecommunications (DOITT) at **http://maps.nyc.gov/doitt/nycitymap**/. However, the map is not exhaustive, and Contractors should confirm Parks properties in the vicinity of their work with NYCDPR.

8. The Contractor must take necessary precautions to prevent interference with or damage to utilities or other facilities during construction. The cost of all work connected with maintaining and protecting utilities affected by the work be borne by the Contractor and the cost will be deemed included in the price bid for the various items in the contract.

9. In the event the Contractor damages an existing utility or interrupts utility service, the Contractor will immediately notify its owner and the Engineer and must commence repair/replacement work as instructed by the Engineer.

10. In the event the Contractor causes an interruption in utility service, the Contractor will immediately arrange for service to be restored and may not cease the repair work until service is restored. The Contractor will not continue work until the service is restored, unless otherwise directed by the Engineer. All corrective utility work will be acceptable to the engineer and the subject utility owner.

11. If any utility service or connection of unknown ownership is encountered during construction which appears to enter or serve Parkland, Contractor must contact Parks at **interagency@parks.nyc.gov** to inquire if Parks is the owner of such utility.

A14. START OF CONTRACT WORK. The Contractor is notified that a Notice To Proceed (NTP) date will be issued for work to commence within 21 to 30 Days of Contract Registration.

A15. STANDARD WORKING HOURS: In absence of OCMC Traffic Stipulations, Section 1.06.23 (P) of NYC DOT STANDARD HIGHWAY SPECIFICATIONS regarding standard working hours is to be followed is to be followed. Work performed outside the standard working hours must be pre-approved by NYC DDC.

A16. TREE BARRIERS. The Contractor will furnish, install, maintain and subsequently remove temporary Protective Tree Barriers. Protective Tree Barriers will be Type B, unless otherwise directed by the Engineer, and will be constructed and installed as shown on the Protective Tree Barrier sketch in Department Of Transportation, Standard Highway Details Of Construction, Drawing No. H-1046A, as directed by the Engineer, and in accordance with Department of Parks and Recreation requirements.

Price of the tree barriers must be included in the in the unit prices bid for all scheduled items.

A17. UTILITIES. All utility locations and invert elevations are not guaranteed, nor is there any guarantee that all existing utilities, whether functional or abandoned within the project area are shown.

A18. HOUSE CONNECTIONS. All existing house connections will be maintained and supported during construction. The Contractor will replace any existing house connection damaged as a result of the Contractor's construction operations as ordered by the Engineer at no cost to the City.

A19. STREET LIGHT AND TRAFFIC SIGNAL. The Contractor is responsible for any damage to the existing street lighting and traffic signal equipment, including underground conduits and the safety of both pedestrian and vehicular traffic for the duration of the contract.

Should any conduits, cables or foundations need repair due to the Contractor's negligent operations during construction, all work will be performed according to NYCDOT Bureau of Traffic's Standard Drawings and Specifications and City of New York DOT System Engineering Specifications (dated November 2013) at the sole expense of the Contractor.

It is the Contractor's responsibility to secure an approved electrical Contractor to perform all traffic signal work (if any). For list of approved electrical Contractors, contact Mr. Hasib Amini or James Celentano, New York City Department of Transportation at (212) 839-3386/ (212) 839-3129.

A20. SAW CUT. The Contractor is advised that where the existing roadway pavement is designated to be replaced from curb to curb, then no full depth saw cutting of pavement for sewer and water main trenches will be required, except at the limits of full width pavement restoration. No separate or additional payment will be made for any saw cutting.

A21. PRE-CONSTRUCTION STAGE. The Contractor is advised that the Base Contract Duration (consecutive calendar days "ccds") must also include pre-construction stage from the Notice To Proceed date. During this stage the Contractor is required to submit the necessary shop drawings, obtain all permits and submit the health and safety plan for review and approval. The Engineer's field office will also need to be established during this pre-construction stage period. Failure to comply with the pre-construction stage requirements may result in assessing liquidated damages to the Contractor for everyday beyond the pre-construction stage duration. The liquidated damage will be of equivalent value as identified in the Schedule A for work beyond the construction completion date.

A22. EXISTING SEWERS, WATER AND APPURTENANCE. The Contractor is notified that at some locations there may exists sewers, manholes, water mains, etc., which are to remain undisturbed and are in close proximity to the line of the proposed work. The Contractor exercise extreme care, minimize the trench width of the proposed sewers and take all necessary precautions in placing sheeting and during excavation of the trenches to prevent any damage to the existing structures, pavement, curbs, and sidewalks that are to remain while working adjacent to them. The Contractor maybe restricted to use wood sheeting at certain critical locations as directed by the Engineer. Should any damage occur to any portion of the existing structures that are to remain due to the Contractor's operations, the Contractor will make all repairs to the existing structures to the satisfaction of and as directed by the Engineer. The cost of such repair will be borne by the Contractor, at no cost to the City. Additional cost to use wood sheeting specifically to ensure integrity of existing sewer structures will be deemed included in all bid items for work.

A23. RECONNECTING EXISTING SEWERS TO NEW MANHOLES. If there are locations on the contract plans, where the Contractor is required to reconnect all existing sewers to the proposed manholes in this contract. The said manholes will be fabricated to provide openings for the existing sewers at the specified invert elevations as shown on the contract drawings. The cost of reconnecting existing sewer pipes to new manholes, including concrete collar with steel reinforcements and/or grouting around the existing sewer pipes at the openings and all work necessary to complete the pipe reconnection, to the satisfaction of the Resident Engineer will be deemed included in the prices bid for all items of work. No additional payment will be made.

[ARTICLE "A24" IS ONLY APPLICABLE IF ITEMS FOR VIBRATION MONITORING ITEM NO. 76.31 IS IN THE BID SCHEDULE]

A24. VIBRATION MONITORING. In case of structures requiring vibration monitoring, the Contractor, in addition to Continuous Real Time Monitoring for Vibrations as determined in the Construction Report must provide Continuous Real Time Monitoring for Vibrations of existing buildings/structures adjacent to or in the proximity of different types of construction activities being conducted including, but not limited to, installation of sheeting for construction of proposed water and sewer mains, installation of sheeting for excavation of jacking/receiving pits, direct jacking of sewers, piling work or as directed by the Engineer.

A25. CITY ASSETS. The Contractor is advised that any City owned light poles, traffic signals, street name signs, traffic signs and encumbrances including, but not limited to, underground conduit displaced as the result of the installation of the new sewers, water mains, catch basins, catch basin connections and appurtenances will be replaced in kind and as directed by the Engineer. The cost of such work will be deemed included in the prices bid for all items of work under this contract.

[ARTICLE "A26" IS ONLY APPLICABLE FOR WATERMAIN 24-INCHES AND HIGHER]

A26. "AS-BUILT" DRAWINGS FOR WATER MAINS AND APPURTENANCES 24-INCHES (600-MM.) AND LARGER: Upon the completion of the work for each Capital Project and as a condition precedent to obtaining the certificate for Substantial Completion for each Capital Project under Article 44 of the Contract, the Contractor will furnish "As-Built" drawings for water mains and appurtenances 24-inches and larger to the City. The Contractor will prepare and submit the "As-Built" record drawings to the Engineer for approval. Approved "As-Built" drawings will be delivered to the Department of Design and Construction, 30-30 Thomson Avenue, Long Island City, New York, 11101-3045. The following guideline is provided for the preparation of "As-Built" record drawings:

1. The Contractor will prepare the "As-Built" drawings on AutoCAD and will provide to the City two (2) sets of Mylar and AutoCAD files on a CD. The drawings on CD's and the plotted Mylar's will conform to the standard size of 22" x 36" (559-mm. x 914-mm.) using a 1"=30' (1:360) horizontal and 1"=10' (1:120) vertical scale. The Mylar will be 3-mil in thickness.

2. The "As-Built" drawings will include but not be limited to the following guidelines summarized below:

(a) Drawings will consist of the same legend and layout of title boxes shown on the contract drawings.

(b) Each plotted Mylar drawing will contain the signature and stamp of the Contractor's NYS Professional Engineer/Registered Architect.

(c) The drawings will include:

- street name and crossing street(s) or distance from;
- north arrow;
- property lines and widths;
- legal and existing street widths, street alignment and grades;
- "new" curb lines and widths;
- water main center line measured off the "new" curb line;
- horizontal stationing for all valves, hydrants, outlets, blow-offs, house service connections, etc., measured on a horizontal line as established by the Borough Office Bureau of Topographic;
- alignment and appurtenance location stationing, and deflection angles;
- cover and elevations (Datum used will be that of the Borough where work is located);

- location of pipe joints;
- profile of all piping;
- complete details of all outlet piping roundabouts;
- complete details of all blow-off connections to the sewer;
- complete details of all air cocks;
- location of taps and access manholes;
- location of all cathodic protection stations;
- Venturi sensing lines plans and profiles;
- all appropriate notes.

3. The cost of preparing and submitting “As-Built” approved drawings will be deemed included in the prices bid for all scheduled bid items in the contract. No separate or additional payment will be made for this work.

A27. NO ADDITIONAL PAYMENT. The Contractor is advised that any fences, guardrails, boulders, asphalt walkway of the park, fixtures, other encumbrances removed within project limits during construction will be replaced in kind to the satisfaction of the Engineer. The cost of such work will be deemed included in the prices bid for all contract items of work and no additional or separate payment will be made.

A28. SHEETING AND EXCAVATION AT TRANSIT FACILITIES. In case of transit facilities like MTA, LIRR, METRO NORTH etc., the Contractor will exercise extreme caution and take all necessary precautions in placing sheeting and excavation to prevent any damage to the existing underground or overhead structures and its appurtenances during construction work throughout the project area. The Contractor must take full responsibility to protect the said structures and its appurtenances and any damage caused by the Contractor’s operations must be made good by the Contractor to the satisfaction of the Engineer at no additional cost to the City.

The Contractor must submit shop drawings to the Transit facilities showing all the details and methods of construction, such as, sheeting and bracing, including the Contractor’s procedure and sequence of construction, supporting and/or protection of the existing structures and its appurtenances, with necessary design calculations for approval prior to starting of the construction. The design will be made by a New York State Licensed Professional Engineer skilled in this type of construction and as further evidenced by the imprint of Professional Engineer’s seal and signature on all drawings. The cost of this work will be deemed included in the price bid for all items of work under this contract.

A29. ARCHAEOLOGICAL DISCOVERIES. The Contractor is notified that if requested by the Resident Engineer and the City, the Contractor will be required retain the services of an Archaeologist (the "City's Archaeologist") for this project.

The City's Archaeologist will be notified in advance and will be present on site during sub-surface excavations as deemed necessary. The City's Archaeologist will be authorized to halt construction at any time in order to record and/or recover any archaeological resources encountered during excavations, and to stabilize in place any human remains encountered.

For the purpose of evaluating and recording archaeological resources, the City's Archaeologist will be allowed to enter trenches provided all standard safety requirements are met. It is understood that some construction down time may be necessary.

In the event that human remains, and/or other significant archaeological deposits are encountered during construction or archaeological investigations, Landmarks Preservation Commission (LPC) will be notified as directed by the City's Archaeologist and the State Historic Preservation Office (SHPO) requires that the following protocol is implemented:

1. At all times human remains must be treated with the utmost dignity and respect. Should human remains be encountered work in the general area of the discovery will stop immediately and the location will be immediately secured and protected from damage and disturbance.

2. Human remains or associated artifacts will be left in place and not disturbed. No skeletal remains or materials associated with the remains will be collected or removed until appropriate consultation has taken place and a plan of action has been developed.

3. The County coroner and local law enforcement as well as the SHPO and the involved agency will be notified immediately. The coroner and local law enforcement will make the official ruling on the nature of the remains, being either forensic or archeological. If the remains are archeological in nature, a bio-archaeologist will confirm the identification as human.

4. If human remains are determined to be Native American, the remains will be left in place and protected from further disturbance until a plan for their protection or removal can be generated. The involved agency will consult SHPO and appropriate Native American groups to determine a plan of action that is consistent with the Native American Graves Protection and Repatriation Act (NAGPRA) guidance.

5. If human remains are determined to be Euro-American, African- American, etc., the remains will be left in place and protected from further disturbance until a plan for their avoidance or removal can be generated. Consultation with the SHPO and other appropriate parties will be required to determine a plan of action.

Should extra work be ordered by the Resident Engineer as a result of any archaeological discoveries, it will be paid for from the Fixed Sum included in, and in accordance with Item HW-908 Allowance for Extra Work Due To Archaeological Discoveries.

A30. USE OF CITY WATER. Please refer to NYCDOT STANDARD HIGHWAY SPECIFICATIONS (May 16, 2022), Sub Section 1.06.23 (A), Rules, Laws, and Requirements, for use of City water.

A31. PUBLIC DISSEMINATION OF INFORMATION. The Contractor agrees to hold confidential, both during and after the completion or termination of this Contract, all of the reports, information, or data, furnished to, or prepared, assembled or used by, the Contractor under this Contract. The Contractor agrees to maintain the confidentiality of such reports, information, or

data by using a reasonable degree of care, and using at least the same degree of care that the Contractor uses to preserve the confidentiality of its own confidential information. The Contractor agrees that such reports, information, or data will not be made available to any person or entity without the prior written approval of the Commissioner. The obligation under this Section to hold reports, information or data confidential will not apply where the Contractor is legally required to disclose such reports, information or data by virtue of a subpoena, court order or otherwise ("disclosure demand"), provided that the Contractor complies with the following: (1) the Contractor will provide advance notice to the Commissioner, in writing or by e-mail, that it received a disclosure demand for such reports, information or data and (2) if requested by the Commissioner, the Contractor will not disclose such reports, information or data until the City has exhausted its legal rights, if any, to prevent disclosure of all or a portion of such reports, information, or data. The previous sentence will not apply if the Contractor is prohibited by law from disclosing to the City the disclosure demand for such reports, information or data.

The Contractor will restrict access to confidential information to persons who have a legitimate work-related purpose to access such information. The Contractor agrees that it will instruct its officers, employees, and agents to maintain the confidentiality of any and all information required to be kept confidential by this Contract.

The Contractor, and its officers, employees, and agents will notify the Commissioner, at any time either during or after completion or termination of this Contract, of any intended statement to the press or any intended issuing of any material for publication in any media of communication (print, news, television, radio, Internet, etc.) regarding the services provided or the data collected pursuant to this Contract at least twenty-four (24) hours prior to any statement to the press or at least five (5) business days prior to the submission of the material for publication, or such shorter periods as are reasonable under the circumstances. The Contractor may not issue any statement or submit any material for publication that includes confidential information as prohibited by this Section.

At the request of the Commissioner, the Contractor will return to the Commissioner any and all confidential information in the possession of the Contractor or its subContractors. If the Contractor or its subContractors are legally required to retain any confidential information, the Contractor will notify the Commissioner in writing and set forth the confidential information that it intends to retain and the reasons why it is legally required to retain such information. The Contractor will confer with the Commissioner, in good faith, regarding any issues that arise from the Contractor retaining such confidential information. If the Commissioner does not request such information, or the Law does not require otherwise, such information will be maintained in accordance with the requirements set forth in the Contract Documents.

A32. PRICES TO INCLUDE. No direct payment will be made for costs incurred in complying with the foregoing Special Provisions, unless otherwise provided. Said costs will be deemed to have been included in the prices bid for all the scheduled contract items.

(NO TEXT ON THIS PAGE)

(B) HIGHWAY SPECIAL PROVISIONS (JOB SPECIFIC)

TABLE OF CONTENTS

ARTICLE	DESCRIPTION	PAGE NO.
B1.	CRITICAL PATH METHOD (CPM) SCHEDULE	12
B2.	SUBMITTAL PROCEDURES	24
B3.	SPECIAL CONDITIONS FOR MARITIME, WATERFRONT, AND FLOATING PLANTS	31
B4.	U.S. COAST GUARD REQUIREMENTS	47
B5.	GREENHOUSE GAS EMISSIONS	54
B6.	EMPLOYMENT OPPORTUNITIES	55
B7.	WORK RESTRICTIONS	57
B8.	VALUE ENGINEERING CHANGE PROPOSAL (VECP)	58
B9.	REFERENCE DOCUMENTS	65
B10.	ENVISION	66
B11.	PAYMENT FOR MAINTENANCE AND PROTECTION OF TRAFFIC	67
B12.	SPECIAL INSPECTION AND DEPARTMENT OF BUILDINGS.	68
B13.	PHASING	69
B14.	EASEMENTS	70
B15.	OCMC STIPULATIONS	71

B1. CRITICAL PATH METHOD (CPM) SCHEDULE

The requirements of this article supersede the requirements of NYCDOT Standard Highway Specifications **Section 1.06.25**.

1.1 DESCRIPTION

A. This section specifies the procedures and requirements, which the Contractor must follow for documenting the progress of the Work. Among the requirements specified are schedule development and maintenance as well as associated submittal requirements.

B. The Contractor must submit a Progress Schedule in compliance with Article 9 of the Standard Construction Contract. The Contractor's Progress schedule must be a Critical Path Method Progress Schedule prepared using Primavera P6 software (P6), which demonstrates complete fulfillment of all work shown in the contract documents. The Contractor must, on at least a monthly basis, revise and update the Progress Schedule, and use it in planning, coordinating, and performing all work. Schedule activities must accurately depict the entire scope of work to be performed to complete the project including, but not limited to, all work to be performed by the Contractor, subcontractors, fabricators, suppliers, consultants, the Department, and others, contributing to the project.

1.2 RELATED DOCUMENTS

- Payment Procedures (Articles 41, 42, 43, 44, 45 and 46 of the Standard Construction Contract).
- Request for Information or Approval (Article 10 of the Standard Construction Contract).
- Submittal Procedures (Article B2 of the Special Provisions [S-Pages]).
- Definitions (Article 2 of the Standard Construction Contract).
- Progress Schedules –(Article 9 of the Standard Construction Contract).

1.3 ACTION SUBMITTALS

1.3.1 Project Scheduler's Resume: The name, resume and work experience of the Contractor's Project Scheduler must be submitted to the Engineer and approved before Work on the Schedule Document begins. The resume of the proposed Project Scheduler must include the duties, responsibilities, and accomplishments which establish the candidate's scheduling and construction experience. Should the Contractor utilize a Scheduling Consultant, the Consultant's name and work experience must be submitted to the Engineer and approved before the Consultant begins work on the Schedule Document. If either, the proposed Consultant or the Contractor's Project Scheduler are not approved, the Contractor must propose an alternate Consultant or another Project Scheduler that meets the experience requirements within five (5) working days. The Engineer has the right to reject the Project Scheduler and/or the Consultant based upon lack of experience as required herein. Rejection by the Engineer of the proposed Project Scheduler and/or the Consultant will not be allowed as a basis for an extension of time to submit any of the required Schedule Document(s).

1.3.2 CPM Schedule: The CPM Schedule must be prepared using Primavera Project Management Software P6 V15 or newer. Using Critical Path Method ("CPM") techniques, the schedule must accurately represent the Contractor's plan for the timely completion of the Work and must be submitted in the following formats:

1.3.2.1 Preliminary CPM Schedule: No later than 15 Days (CCD) after receipt of the Notice to Proceed, the Contractor must make a presentation to the Engineer concurrently with the submittal for acceptance of the Preliminary CPM Schedule defining the Contractor's planned

activities during the first 90 Days. The Preliminary CPM Schedule must contain in detail the Contractor's proposed schedule of Work to be commenced within the first 90 Days after the Notice to Proceed. This Preliminary CPM Schedule must include, in a summary format, the balance of Work leading to the Project's Substantial Completion. The Preliminary CPM Schedule package may be conditionally accepted by the Engineer pending acceptance of the Baseline CPM Schedule. The conditionally accepted Preliminary CPM Schedule must be updated monthly until the Detailed CPM Schedule is accepted. The Contractor may make no changes to the conditionally accepted Preliminary CPM Schedule without the approval of the Engineer.

1.3.2.2 Baseline CPM Schedule: No later than 45 Days after receipt of the Notice to Proceed, the Contractor must make a presentation to the Engineer concurrently with the submittal for acceptance of the complete CPM Schedule Documents which must incorporate the entire scope of the Work. This schedule, once approved by the Engineer, will be the Baseline CPM Schedule and will be considered the schedule of record unless a Baseline CPM Schedule revision is accepted by the Engineer. The most up to date Baseline CPM Schedule or Baseline CPM Schedule revision accepted by the Engineer must be considered the Current Baseline Schedule or the schedule of record.

1.3.2.3 Changes to the Baseline Schedule: No changes are permitted to the Baseline CPM Schedule including but not limited to Activity ID, logic, durations, budgeted quantities of both materials and man-hours unless submitted, reviewed and accepted by the Engineer prior to their insertion into the CPM Schedule.

1.3.2.4 CPM Logic Diagrams: CPM Logic Diagrams must be submitted on sheets 11 x 17 inch paper and as Adobe Acrobat PDF or as otherwise directed by the Engineer. The activity box must include at a minimum the activity number, description, responsibility code, early dates, total float, original and remaining durations. Logic Diagrams must be submitted until both the Preliminary and Baseline CPM Schedules are accepted. Upon acceptance of the Preliminary and Baseline CPM Schedules one set of the CPM Logic Diagrams must be submitted. The CPM Logic Diagrams must be resubmitted for approval when a revision to the schedule logic is made.

1.3.2.5 Monthly CPM Updated Schedule: No later than the third (3rd) working day of the month, the Contractor must submit an update of the CPM Schedule. This Schedule update must be derived from the Baseline CPM Schedule and includes progress of the Work as of the data date and as agreed to each month in the monthly schedule review/update meeting. Except for recording the work progress, no changes are permitted to the updated CPM Schedule including, but not limited to, Activity ID, logic, durations, budgeted quantities of both material and man-hours unless submitted, reviewed and accepted by the Engineer prior to their insertion into the updated CPM Schedule. The Contractor agrees that this Schedule update accurately represents the progress of the Work to date and balance of the Work to be completed.

1.3.2.6 Hard and Electronic Copies: The submittal of the Preliminary, Baseline, and Monthly CPM Schedule Updates, in detail and in summary format, must include three (3) collated paper copies on 11 x 17 and must also be submitted in Adobe Acrobat PDF and in native Primavera Project Management P6 software files (Version 15.0 or newer).

1.4 PROJECT SCHEDULER

1.4.1 The Contractor must employ or retain a project Scheduler with a minimum of five (5) years of experience in the use of Oracle's Primavera Project Management Primavera Project Management (P6 or later) for the purpose of developing, monitoring, maintaining and updating

the Contractor's detailed Project's Schedule utilizing the latest version of Primavera Project Management P6 software (Version 15.0 or higher). The Project Scheduler must also possess at least five (5) years of relevant experience in construction, planning, scheduling, expediting and tracking the progress of the work for projects of a similar nature, size, and complexity. The Project Scheduler must be responsible for adhering to all requirements of this schedule specification, attending all job progress review/update meetings, and other meetings as requested by the Engineer. The Project Scheduler must be dedicated fully to this Contract and is expected to function as part of the Contractor's project team and actively contribute to the planning, mitigation and coordinated maintenance and upkeep of the Project Schedule deliverables of this Contract.

1.5 GENERAL REQUIREMENTS

A. To enable the Work to be performed in an orderly and expeditious manner, the Work must be monitored closely by the Contractor using a CPM Schedule. The scheduling of all the Work, i.e. design, submittals, approvals, procurement, construction, testing, etc. is the responsibility of the Contractor.

B. Progress Payment: The monthly CPM Schedule update submission, showing updated activities and status in accordance with the requirements of this Section must be a condition precedent to the start of the monthly progress payment cycle. **The Engineer will not process the monthly progress payment until the CPM Schedule update submission has been received.**

C. Time is of the essence in the performance of all Work under this Contract including but not limited to providing the required Schedule information. The CPM Schedule must at all times accurately reflect the Contractor's CPM schedule of record for the Work and must be updated as required herein, in a timely manner. The CPM Schedule must be the primary tool utilized by the Contractor to accurately document the progress of the Work and to communicate its plan for the timely completion of the Work.

D. Float Suppression: Pursuant to float sharing requirements of this Article, the use of float suppression techniques such as preferential sequencing or logic, special lead/lag logic restraints, and extended activity times or durations is prohibited. Approval of any schedule by the Engineer does not preclude the Engineer's later correction of float suppression techniques or of any other deficiency.

E. If the Contractor elects to propose an Early Completion Schedule, such schedule must be subject to the acceptance of the Engineer and in compliance with any interim milestones specified in the Contract Documents. Early Completion Schedules are subject to Articles 8 and 9 of the Standard Construction Contract.

F. The Contractor must include an activity (milestone) in its schedule that represents Substantial Completion; such activity (milestone) will only be acceptable if it meets all the requirements of the Standard Construction Contract set forth in Article 14.

G. Scheduling Kickoff Meeting: Upon Notice to Proceed, the Contractor and the Engineer will hold a Scheduling Kickoff Meeting to review these requirements and any related Contract Documents. This meeting must be attended by the Contractor's Project Manager, Contractor's Project Scheduler, representatives from key subcontractors, and the Engineer's staff, including the Engineer's project scheduler. Specific items to be covered will include Contract schedule requirements, project phasing, intermediate milestones, workday calendars, activity coding, schedule updating, schedule revisions, progress payment process, and any other items related to the project schedule document development.

1.6 DETAILED SCHEDULE REQUIREMENTS

A. Schedule Detail: The CPM Schedule must contain sufficient design, procurement, and construction activities to represent the Work, subject to the acceptance by the Engineer, with a means to monitor and follow progress of all phases of Work; comply with limits imposed by the scope of Work, with contractually specified seasonal restrictions, interim milestones and completion dates; and with constraints, restraints, or sequences included in the Contract. The schedule detail must be subject to acceptance by the Engineer. Factors to be considered include, but are not limited to:

1. Organization by major areas of Work Breakdown Structure (WBS).
2. Submittals, submittal reviews and approvals, manufacture, tests, delivery, installation activities for long lead items, training syllabus, critical materials and equipment, system testing as well as seasonal restrictions must be represented in the CPM Schedule. Description of the activity must include sufficient detail to identify the unique scope of that activity. Whenever possible, like items must be combined in a single submittal. If multiple items are included in a single submittal, that submittal must be identified in the Schedule by an activity in accordance with the following conditions:
    a. The “Review and Approval” activity for that submittal must be a condition precedent to every activity representing fabrication and delivery of any of the materials submitted.
    b. If and when the submittal receives authorization for the activity to partially proceed and that partial authorization is sufficient to enable the commencement of some, but not all, successor activities, then the original submittal activity must be broken down into multiple activities, as necessary to accurately reflect the logic of Contractor’s current plan.
3. Deliveries of furnished equipment and/or materials in accordance with dates or schedule windows of times set forth in the Contract. Activities representing the delivery of materials or equipment for more than one installation activity will be permitted in accordance with the following conditions:
    a. The delivery activity must precede each activity representing the installation of that material in each area.
    b. When partial deliveries are received and are adequate so as to enable commencement of some, but not all, successor activities, then the original delivery activity must be broken down into multiple activities, so as to accurately reflect the logic of the Contractor’s current plan.
4. The required review and approval time for any submittals must be incorporated.
5. Milestones or access restraints for completion of certain portions of the Work or access and availability to Work areas as referenced elsewhere in the Contract Documents.
6. Identification of interfaces and dependencies with preceding, concurrent, and follow-on Contractors and utilities, typically shown as milestone type of activities.
7. Planning for phased or total handover to the Engineer.
8. Identification of any resource restrictions including manpower (by trade), material, and equipment, as well as any activity requiring unusual shift work, such as multiple shifts, weekend work, specified overtime, or work at times other than regular days or hours.
9. Resource Loading: Resource allocation for each activity in the CPM Schedule identifying the man-hours by trade and costs by bid item. Cost items may be combined by category as approved by the Engineer. Activities containing unit price items must equal the amount of the quantity specified in the Contract. The Engineer reserves the right to accept or reject any value and allocation of the man-hours and/or costs.
10. Activity Code Structures: Activities must be coded for the following categories:

a. RESP - Responsibility – Identify Contractor Utility, Subcontractor, etc. responsible for the Work.
b. PHAS – Phase – Breakdown of activities in Milestone, Construction Phases and Close out activities.
c. AREA - Area – May be used as subdivision to include permits, engineering, design, procurement, submittals, submittal review and approval, fabrication, delivery, change order, training, testing & commissioning, payment item major areas of Work.
d. LOCN – Location - Breakdown by street, interwsection or block, construction reaches or landmark locations.
e. TRAD – Trade – Breakdown by work type. Examples: ramp, plaza, sidewalk, pedestrian bridge, roadway construction.

11. Calendars: Develop activity calendars commensurate with the Contractor's workweek plan. Calendars must include all non-working Days, such as: seasonal weather conditions, weekends, holidays, or other periods when the Contractor plans not to work. Calendar(s) must be reviewed and accepted by the Engineer as part of the Baseline Contract Schedule submittal and will be monitored using the most updated Contract Schedule.
    a. The planning unit for the Contract must be Days (CCD).
    b. Calendars must contain all applicable union holidays, as listed in any applicable labor agreements.
    c. Every activity must be assigned a working day calendar that considers when the activity is planned to occur and when it is contractually permitted to occur.
12. Activities representing work or participation by the Engineer staff must be assigned to a 5-day workweek calendar, unless otherwise specified by the Engineer or Engineer's Representative. Contractor's Schedule must not anticipate or require weekend or holiday work periods for the Engineer unless specifically approved by the Engineer.

B. Materials and Equipment Procurement: Include the following activity sequence for critical and long lead materials and equipment procurement:

1. Submittal Preparation.
2. Review and Approval.
3. Fabricate and Deliver.

C. Logic and Durations: Logic and activity durations must be established by the Contractor consistent with the Contract requirements and must reflect coordination between trades, definitive resource planning and on-site work conditions. Logic must show how the start of a given activity is dependent on the completion of preceding activities, and its completion restricts the start of following activities. Except for non-construction activities such as procurement of material, delivery of equipment or fabrication, activities must not have a duration greater than twenty (20) working days unless specifically approved by the Engineer. Duration for non-construction activities such as procurement of material or delivery of equipment may not exceed twenty (20) working days without prior approval.

D. Restraints and Milestones: The start date of the CPM Schedule must be the Contract NTP date. The completion date of the CPM Schedule must be the Contract Substantial Completion date as specified in this Chapter. All intermediate restraints and milestones required in the Contract must be shown in proper logical sequence and properly constrained.

E. Schedule Dates: Whenever the term "schedule" or "scheduled date" is used, it must mean the "early start" and "early finish" dates in the CPM Schedule. The "late" dates are for purposes of calculating float and do not represent the schedule dates.

F. Activity Descriptions: Activities must be described such that the Work is readily identifiable for assessment of start and completion, as well as intermediate status. Descriptions must utilize identifiers for physical locations such as reaches, bridge locations and elevations where possible to define the Work. The activity description must identify the scope of the activity. There must not be any two activities with the same activity description.

G. Working Days: While contract times are expressed in Days (CCD), the CPM Schedule must be calculated in working days.

H. Weather or Seasonal Allowances: Seasonal weather conditions must be considered in the planning and scheduling of all Work such that all Work will be completed within the allotted Contract time. Any weather or seasonal allowance must be stated in the Baseline narrative.

I. Submittal and Review Periods: The review period shown in the Schedule for submittals must conform to the Contract requirements set forth in Article 10 of the Standard Construction Contract and the related submittal section of the Technical Specifications.

J. Constraints: The Schedule must include all Work constraints indicated in the Contract Documents. Other activity Constraints must not be used unless approved by the Engineer.

K. Float: Float is defined as the calculated amount of time that the estimated start or finish of an Activity can be delayed without impacting the start or finish of other downstream activities logically connected in a progressive relationship. Float, in any schedule, must not be for the exclusive use or benefit of either the City or the Contractor, but must be available for use by both the City and the Contractor.

L. The CPM Schedule must contain sufficient activities and allotted time for all inspections, testing, commissioning and the Engineer's acceptance, as well as system testing, orientation, and demonstrations. The schedule must also include a System Testing and Acceptance fragnet or subnet within the project CPM Schedule as needed. This schedule will identify all equipment and systems that require testing, orientation and acceptance by the Engineer. The durations and sequences of the systems testing, orientation and acceptance must be as specified in the various sections of the Contract Specifications. Each system will contain, but will not be limited to, all of the following activities and constraints:

    1. Interface between the construction activities and their respective system.
    2. Contractor's pre-testing Work.
    3. Submittal and approval of the Contractor's pre-testing data and checklist, as appropriate.
    4. Sufficient notification time to the Engineer prior to system testing.
    5. Submittal and approval of the preliminary and final as-built drawings.
    6. Submittal and approval of the preliminary and final O&M Manuals.
    7. Submittal and approval of testing procedures.
    8. All other systems that are required to be tested and accepted prior to the specific system being tested.
    9. System testing by the Engineer.
    10. Other outside agencies, utilities, etc., that are required to test, witness and accept the system.
    11. Submittal and approval of the orientation syllabus, orientation manual, and orientation video.
    12. Performance of orientation.

M. Prior to Substantial Completion, the Contractor must submit a Punchlist Completion Schedule that shows the schedule of the punch-list items. All Work shown on this schedule must be performed as specified within Article 14.2.2 "Approval of Final Approved Punch List". The

Engineer, in a written notification to the Contractor, must approve the Contractor anticipated completion dates. If the Engineer and the Contractor are unable to agree on the anticipated completion dates, the Engineer must establish dates for the completion of each item of work.

N. In the event that Contractor requires multiple submissions in order prepare a submittal that is acceptable to the Engineer and that can be approved, then the Contractor must adjust its CPM schedule to include adequate time for such multiple submittals at each stage of the approval process. Any additional time resulting from the Contractor's multiple submissions before an item can be approved by the Engineer must be mitigated by the Contractor.

1.7 BASELINE CPM SCHEDULE NARRATIVE

A. As a component of the Baseline CPM Schedule, submit a narrative to describe the procedures, general approach and the means and methods it will use to complete the Work under the conditions described and in accordance with Article 9 of the Standard Construction Contract.

B. Submit the narrative described herein along with the Baseline CPM Schedule. Any review, acceptance or approval of a Baseline narrative or Schedule submission cannot revise or amend any Contract provision and does not represent the Engineer's agreement to any conclusion, interpretation, indication, method or description contained therein.

C. A narrative report that must be signed by the Contractor's project manager and must describe and demonstrate that the Contractor's proposed means and methods meet the specified Contract requirements. The narrative must include but not limited to:

1. Description of the scope of Work and goals.
2. A discussion of the CPM Schedule development.
3. A listing of all intermediate contractual milestones with their respective float and schedule analysis.
4. Identification of the critical path(s).
5. Identification of the long lead items and their impact on the critical path(s).
6. Identification and description of the calendar(s) used in developing the Baseline CPM Schedule.
7. Identification of planned manpower and projections of Contractor's workforce and subcontractor's workforces; the manpower projections must also be submitted in a histogram and cumulative graph format.
8. Identification of planned equipment requirements.
9. Description of planned mobilization, including provisions for the Engineer's office and facilities.

1.8 SCHEDULE REVIEWS

A. Reviews of Contractor's Schedule submissions will be in accordance with Article 9 of the Standard Construction Contract and this Article, unless noted otherwise.

B. Preliminary CPM Schedule Review: Within 15 Days following receipt of the Preliminary CPM Schedule, the Engineer will review the Preliminary CPM Schedule and return it to the Contractor either with comments or conditionally accepted. During this time, the Contractor must participate in the review and evaluation of the Preliminary CPM Schedule with the Engineer. Within 5 working days after comments are received, the Contractor must address the Engineer's comments and resubmit a corrected Preliminary CPM Package. The Contractor must repeat this process as many times as required at no additional cost to the City until the Engineer conditionally accepts the Preliminary CPM Schedule.

C. Baseline CPM Schedule Review: Within 20 working days from receipt of the Baseline CPM Schedule, the Engineer will review the Detailed CPM and return it to the Contractor either with

comments or accepted. During this time, the Contractor must participate in the review and evaluation of the Detailed CPM Schedule by the Engineer. Within 5 working days after comments are received, the Contractor must address the Engineer's comments and resubmit for acceptance a corrected Detailed CPM package. The Contractor must repeat this process as many times as required until the Engineer accepts the Detailed CPM Schedule at no additional cost to the City.

D. Update Reviews: The Engineer will review and respond to the update scheduling submittals within 5 working days after submittal, unless a different review period is expressly identified elsewhere in the Specifications or other Contract Documents. After review, if changes or additional information are required, the Contractor must submit a revised CPM Schedule update within 3 working days after receiving the comments. Review, revision, and resubmission must continue until the Engineer's acceptance is achieved at no cost to the City as defined in Article 2 of the Standard Construction Contract.

E. Reviews and Re-submittals: The Contractor must repeat this process as many times as required at no additional cost to the City until the Engineer accepts the Preliminary Schedule, Baseline CPM Schedule, and the monthly CPM Schedule updates. Acceptance of the Preliminary Schedule is a prerequisite for the acceptance of the Baseline Schedule.

1.9 UPDATING THE PROJECT SCHEDULE

A. Updating: The Contract Schedule must be updated monthly, with Data Date as of the last day of the current month. The Engineer reserves the right to change the monthly cut-off dates in the future for its sole convenience. The Monthly Schedule Review/Update Meeting must be the prerequisite and the start of the monthly update cycle.

1. The CPM Schedule must be updated monthly, whether or not the Engineer has accepted the prior updated Schedule, to reflect actual progress. The update must include the historical record of actual start and finish dates for activities completed. For in-progress activities, the update must include percent complete based on a unit of measure and remaining duration based on the amount of work-days required to complete the activity. Enter for each applicable activity actual installed quantities.
2. Default (automatic) updating of the schedule is prohibited. Actual Start and Finish dates must not be automatically updated by default mechanisms that may be included in the CPM scheduling software systems. This Contract’s primary source of actual starts and finishes and percentages complete are the quantity verification sheets (QVS), which must include the Start and Finish Dates, signed by both parties and included in each of the Contractor’s payment requests.
3. The updated Current Project Schedule must be used for subsequent planning, scheduling, managing and updating the execution of Work to be accomplished. If an update evidences delay to the Baseline Schedule, one of the goals of the planning process must be mitigation of that delay, in accordance with and subject to the provisions of Articles 9 and 10 of the Standard Construction Contract.

B. Two (2) working days prior to the monthly schedule review/update meeting, the Contractor will provide to the Engineer two (2) sets of the two weeks-look-ahead schedule or "Activity List" which will identify, at a minimum, the following information for all activities that have started, are in progress, or have been completed during the reporting period.

1. Assessment of each in-progress activity's remaining duration in P6.
2. The actual start and finish dates whenever appropriate in P6.
3. Actual quantities installed and the physical percent complete for all design and construction activities in P6.

C. Monthly Schedule Review/Update Meetings: A monthly schedule review/update meeting must be held within the last five (5) working days of the reporting month. This meeting must be attended by the Engineer, the Engineer's scheduler, the Contractor's project manager and the Contractor's Project Scheduler, and key subcontractors' representatives. The purpose of this meeting must be to obtain joint agreement on Work progress shown on the Activity List as well as to discuss schedule-related problem areas, proposed logic changes, revisions to previously established productivity rates and other schedule issues. At this meeting, all progress during the calendar month must be addressed and reviewed for incorporation into the CPM Schedule by the Contractor. These meetings must precede the formal submittal of the monthly updated CPM Schedule.

D. Subsequent to the monthly schedule review/update meeting, and pursuant to any agreements made regarding progress and the agreed-upon changes, the Contractor must update the CPM Schedule and provide all required reports showing current progress of the Work as well as a plan and schedule of the completion of the remaining Work. The CPM Schedule must be updated as of the last day of each calendar month and must be submitted no later than the fifth (5th) working days of the month following the report period, until Substantial Completion of the Project. The update must comply with the criteria and format set forth in this Specification. This progress information must be included in the computerized CPM Schedules.

E. The monthly update procedure must include a review of the submittal and delivery activities to ensure that the scope and logic of the activities are consistent with Contractor's current plan.

F. On every progress update, the Contractor must report the physical percent complete as of the status date, for all activities in progress. The physical percent complete for each activity must be established in the following manner: For activities that are quantifiable, the physical progress equals the quantity installed or erected divided by the total quantity allocated to the particular activity (including overruns and underruns). For those activities that cannot be quantified, physical percent complete must be estimated and backup calculations provided.

1.10 MONTHLY PROGRESS REPORTS

A. The Contractor must prepare definitions and designs for reports and/or layouts in Primavera Project Management, P6 V15 or newer in accordance with the requirements detailed herein. The Monthly Progress Report Package submitted to the Engineer must consist of three (3) collated copies of the following:

1. Activity Tabular Reports.
2. Resource Tabular Reports.
3. Resource/Cost Graphic Reports.
4. Bar Charts.
5. Narrative Progress Report clearly identifying progress status and restrictions encountered during the reporting period.

B. Activity Tabular Reports must be provided in the following sort orders:

1. Total float, then early start.
2. Grouped by responsibility, then by early start.
3. Grouped by major Work areas, then by early start.

The minimum activity information required in each of the above reports must include the following:

1. Activity ID.
2. Activity description.
3. Location code identification.

4. Work responsibility code identification.
5. Original activity duration (OD) and remaining duration (RD) in working days.
6. Early and late start and finish dates.
7. Total float.
8. Percent complete.
9. Calendar ID.

C. Updated Bar Chart: Include updated bar charts for:

1. Remaining activities.
2. Critical path(s) activities.
3. Six-week look ahead.
4. Summary bar charts.

The minimum activity information required in each of the above bar charts must include the following:

1. Activity Bar Content: The activity display must include the activities' description, activity ID, OD, RD, Calendar ID, percent complete, total float, early start and finish dates and Responsibility for each activity bar.

2. Grouping: The activities must be grouped as approved by the Engineer.

3. Critical Path Display: The critical path must be identified on the plot in such a manner that it will be clearly distinguishable from other activities.

4. Progress Display: Completion of activities must be indicated on the plot.

5. The summarized CPM Schedule must reflect the current schedule status of the project and be compared to the Baseline Schedule. The format and level of detail will be in accordance with the Contract's major areas of Work to be agreed upon with the Engineer.

D. Narrative Progress Report: The Narrative Progress Report submitted as part of the monthly update analysis must include, but not be limited to:

1. Description of the CPM Schedule status.
2. Discussion of current and anticipated delays including reason for the delay, the recovery scenario(s) and their estimated impact, including off-site activities such as submittal preparation, fabrication, and deliveries.
3. If the Work is behind schedule, include discussion of schedule slippage and/or progress along the critical path in terms of Days ahead or behind the allowable dates and discussion of progress along other paths with negative float to mitigate delays. This must also include a proposed recovery plan and action to be taken.
4. Logic changes and an explanation of the revisions. Revisions to activities not worked on during the period, including changes in duration; revisions to activity relationships; and revisions to constraints on activities; are all to be considered logic revisions. Similarly, this must include description and explanation of reason(s) for any changes to calendars being used in Schedule as well as any changes to calendar assignments of activities.
5. Updated schedule modifications reports: A comparison report showing all changes made to the schedule since the last update as approved by the Engineer. This report must include the reasons for these changes.
6. Identification and justification of all activities performed out of sequence.
7. A summary of planned equipment utilization for the Project, identifying each type of operated equipment to be used on the Contract, the planned quantity of each type of

operated equipment utilized each month, and all changes to the criteria for mobilizing and demobilizing each piece of equipment to and from the site.

8. A summary of planned labor utilization for the Contract, identifying the average and maximum number of workers on site each month. Identify actual and potential labor resource limitations. A summary of the actual labor utilization used over the past month.
9. List of identified additional out of scope items and their potential schedule impact, if any.
10. Identification of outstanding RFI's including discussion of their cost and/or schedule impact.

1.11 **SCHEDULE DELAY CLAIM:**

A. In addition to the requirements outline in with Article 11 "Notice of Conditions Causing delay and Documentation of damages Caused Delay" of the Standard Construction Contract and in instances where the Contractor is submitting a schedule delay claim, the claim request must include a schedule subnet, tabular reports and an explanation that clearly demonstrates the impact of the claim on the project's schedule. The schedule to be utilized as the basis for the claim must be the "Current Updated Schedule" which reflects the present status of the Project. The Contractor must provide to the Engineer, as a minimum, the following information:

1. Schedule subnets (logic diagrams) and tabular reports (prior to and after the Extra Work insertion) that clearly demonstrate the schedule impact on the entire Current Updated Schedule.
2. Schedule impact on engineering/design related activities and/or on activity man-hours.
3. Schedule impact on material and/or equipment procurement, fabrication and delivery schedules.
4. Schedule impact on material storage, temporary services (water, air, power, etc.), supervision, construction equipment, productivity, and manpower.
5. Narrative that clearly identifies, describes, and substantiates the schedule impact on both the affected and subsequent (unchanged Work) activities.
6. Corrective action that can be taken in order to avoid/minimize the schedule impact.
7. Computerized storage media containing all required schedules, cost, resource, and Narrative information.
8. Any other tabular/graphical reports required by the Engineer.

1.12 **REVISION TO THE PROJECT SCHEDULE**

A. In the event that the Engineer determines that there will be or has been a delay which might affect the critical path, the Engineer will instruct the Contractor to analyze the circumstances as to whether the critical path is or will be affected thereby and submit a proposed recovery plan to the Engineer.

B. In the event that it is necessary to revise the CPM's Schedule and/or phasing plan, a revised CPM Schedule and/or phasing plan must be submitted for acceptance at no additional cost to the City. Reasons for revision may include, but are not limited to, incorporation of approved Extra Work (change orders), modification of activity man-hours, if the Engineer determines that Work is not progressing to meet the accepted CPM Schedule, when a delay is affecting the critical path(s), if the phasing plan has been changed, or if the Work is not performed as shown in the accepted CPM Schedule.

C. In all situations in which the CPM cost or CPM Schedule is revised, the Contractor must submit a narrative explaining the reasons for the changes. In addition, the Contractor must submit a listing of all proposed changes in network logic including, but not limited to changes in activity duration and logic, changes in activity man-hours and quantities, changes in activity sequence and any changes in completion dates. Revisions to the schedule document must only be made

after authorization by the Engineer.

D. Upon the Engineer's direction, the proposed resource and/or schedule changes are to be added into the CPM Schedule and must be submitted to the Engineer for review and acceptance within five (5) working days.

E. After Extra Work (change orders) has been approved, the approved logic and its associated information such as activity man-hours, quantities, etc., must be incorporated into the Project Schedule. The sum of the cost and quantity of all the individual activities contained in the Extra Work must be equal to the total cost and quantity of the approved Extra Work. All activities associated with Extra Work must be coded with their specific Extra Work Number.

1.13 PROCEDURES FOR CPM UPDATES AND SCHEDULE CHANGES

A. All Monthly Progress CPM updates must be submitted using the last accepted CPM Schedule. No revisions must be made to the schedule unless they have been expressly authorized in writing by the Engineer as provided herein. Revisions that are not permitted without authorization include but are not limited to revisions in: activity duration, logic, activity man-hours, quantities, activity identification, and historical data from prior updates. Only actual dates and progress agreed upon at the progress meeting and/or progress walk through must be used in the update.

B. Any update that does not comply with these requirements will be rejected by the Engineer; and, in accordance with Paragraphs 3.1.B and 3.5.A.2, above, payment will not be processed until an update consistent with these requirements is received. The Contractor must not delay submission of an update pending authorization of review.

C. If the Contractor intends to propose revisions to the CPM Schedule, the Contractor must submit, separate from any monthly update, a list of the proposed revisions, a fragnet showing the proposed revisions in a form which clearly identifies where the fragnet is to be inserted in the schedule, and a narrative explaining the reason for these revisions. No revision to the CPM Schedule, including any update, must be made until the proposed revision is reviewed by the Engineer and written authorization from the Engineer is provided for that revision. The authorization of any revision to a previously accepted schedule is within the sole discretion of the Engineer.

The authorized revision must not be incorporated into the CPM Schedule Document until the CPM Schedule update following the date of authorization of that revision. Once incorporated, that revision must become part of the accepted schedule.

B2. SUBMITTAL PROCEDURES

The requirements of this article supplement the submittal requirements in the NYCDOT Standard Highway Specifications and the NYCDEP Standard Sewer and Water Specifications. If a conflict exists, the requirements of this article govern.

1.0 GENERAL

This article includes administrative and procedural requirements for submitting Shop Drawings, Catalogue Cuts, Material Samples, As-built or Record Drawings, and other submittals required by the Contract Documents.

Review of submittals does not relieve the Contractor of responsibility for any Contractor's errors or omissions in such submittals, nor from responsibility for complying with the requirements of the Contract.

2.0 DEFINITIONS

Program Management Information System (PMIS) – NYCDDC's System of Record for the Costal Resiliency Program.

Design Consultant - the entity responsible for providing design services for the Project, including without limitation, preparing the construction documents (drawings and specifications) and providing services in connection with such documents during construction. The entity serving as the "Design Consultant" may be a corporation, firm, partnership, joint venture, individual or combination thereof. Such entity may be either an employee(s) of the City or an entity engaged by the City to provide such services.

Submittals - written and graphic information that requires responsive actions and includes without limitation all shop drawings, product data, letters of certification, tests and other information required for quality control and as required by the Contract Documents.

Shop Drawings – includes drawings, diagrams, illustrations, schedules, performance charts, brochures, and other data, except for coordination drawings, specifically prepared for the project by the Contractor or any subcontractor, manufacturer, supplier or distributor, which illustrates how specific portions of the work must be fabricated and/or installed.

Product Data and Quality Assurance Submittals - includes manufacturer's standard catalogs, pamphlets and other printed materials including without limitation the following:

1. Catalogue and Product specifications
2. Installation instructions
3. Color charts
4. Catalog cuts
5. Rough-in diagrams and templates
6. Wiring diagrams
7. Performance curves
8. Operational range diagrams
9. Mill reports
10. Design data and calculations
11. Certification of compliance or conformance
12. Manufacturer's instructions and field reports

3.0 SUBMITTAL PROCEDURES

3.01 Document Control

The Contractor must submit for approval by the Department's engineering personnel and/or Supervising Consultant (herein after called "the Engineer") a Document Management Plan within 30 days of Notice

of Award. The Document Management Plan must define the Contractor's Electronic Document Management System (EDMS) including security protocols. The Document Management Plan must include the following:

1. Requirements for records storage and retention.
2. Procedures for the electronic data backup of all Project-related documents, on a minimum weekly basis, in a secure off-Site area in order to allow for recovery of unexpectedly lost data.
3. Procedures for data transmission, storage and sharing protocols.
4. Procedures for the maintenance, retention, retrieval, and disposal of records.
5. An auditable and tracking system of all Project correspondence and documents
6. Methods by which all documents issued and received by the Contractor will be uniquely coded and retrievable in a user-friendly format.
7. File control, and search and retrieval methods for all documents.
8. Methods to facilitate sharing of data, including procedures for accessing all documents.
9. Methods for controlling document updates.
10. Methods for identification of the originator/recipient for all documents.
11. Document approval tracking.
12. Methods for enabling a searchable database.
13. Methods to establish links among various documents.
14. Protocols for hard-copy and electronic filing.
15. Procedures for recording and tracking review comments and participation by the Engineer and the Contractors' internal review processes as well as any reviews by third-parties or stakeholders.

3.02 Project Management Information System

The Contractor must use the Project Management Information System (PMIS), provided by NYC DDC, throughout the Term of the Agreement for document management and transmittal, including workflows, file storage, communication, and correspondence. This must be in addition to the Contractor's obligation to provide the EDMS as referenced in Sub-Article 3.0.1. All submittals must be uploaded to the PMIS and adhere to the hard copy submittal requirements set forth in the General Conditions. Submittals will be deemed incomplete until the soft copy is uploaded to the Project Management Information System and the hard copies have been received by the NYC DDC. The PMIS will be accessible only through security rights and administration at the discretion of NYC DDC. NYC DDC reserves the right to make periodic changes and enhancements to this requirement with which the contractor must immediately comply.

The PMIS will not relieve the Contractor of its responsibility to independently provide redundancy and security of all Project records. Immediately upon provision by the NYC DDC of access to the PMIS and when instructed to do so by the NYC DDC, the Contractor must utilize the PMIS as the primary interface for all official communications, transmissions and records in connection with the Project between the Contractor and NYC DDC.

Additional PMIS requirements/guidelines for the Contractor:

1. The PMIS must be used to track and manage the Project and as an official record of all Project communication.
1. Designate a PMIS coordinator (an internal point of contact) and provide their name, phone, and e-mail to NYC DDC no later than seven days after NTP
2. Provide high-speed internet connectivity to access the PMIS.
3. Upload, submit, track, and review submittals and all Project related information via the PMIS. Where physical samples are required, review and track the submittal via the system, transmit the sample itself to the reviewer via traditional means and submit a scanned color copy or picture via the PMIS.
4. Enter all PMIS metadata as directed by NYC DDC
5. Use the file naming convention provided in Sub-Article 4.0 for all files uploaded to the PMIS

Refer to other General Requirements and technical specification sections for the specific submittal requirements stated in that section.

3.03 Submittal Coordination

The Contractor must coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activities.

3.04 Submittal Schedule

The Contractor must submit for approval by the Engineer, a Submittal Schedule within fifteen (15) days of Notice of Award. The Submittal Schedule must include and describe all project submittals. The Submittal Schedule must indicate the applicable specification section requirement, identify dates for submittal sequence, preparation and submission based on the approved project schedule and must be organized in a logical manner. The Submittals Schedule must take into consideration reasonable review times and any lead times required by fabricators or manufacturers.

In the interest of a progressive and orderly flow of work from the Contractor to the Engineer that avoids submission of an excessive number of submittals in the same period, the Submittal Schedule must not include more than two (2) submittal reviews per calendar week, unless the Engineer agrees in writing to a larger number on a case-by-case basis.

The Contractor must incorporate the following work flow and timeframes for submittal review in the Submittal Schedule:

1. Submittals received after 3PM will be deemed submitted the following working day.
2. Submittals received after 12PM on Friday will be deemed submitted on the following Monday.
3. Submittals will be deemed administratively incomplete until both the soft copy is uploaded to the PMIS and the hard copies have been received by NYC DDC

Review priorities and extension of review times must be coordinated with the times established in the approved Submittal Schedule.

3.05 Submittal Identification

The Contractor must place a permanent label or title block on each submittal for identification. Each submittal must include:

1. Name of firm or entity that prepared each submittal on the first page of the label or title block.
2. The following minimum information on label for processing and recording action taken:
    a. Project name, NYC DDC Project Number and Contract Number
    b. Revision date
    c. Name and address of Design Consultant
    d. Name and address of Contractor
    e. Name and address of subcontractor
    f. Name and address of supplier or manufacturer
3. Submittal number or other unique identifier, including revision identifier:
    a. Number and title of relevant Specification Section
    b. Drawing number and detail references, as appropriate
    c. Location(s) where product is to be installed, as appropriate
    d. Other necessary identification
4. A revision grid which lists all revisions of the submittal
    a. Date Submitted
    b. High-level description of change
    c. Revision number in XX format starting at 00

3.06 Transmittal

The Contractor must package each submittal individually and appropriately for transmittal and handling. The Contractor must transmit each submittal using a transmittal form. Transmittals received from sources other than the Contractor will be returned without review. Re-submission of the same drawings or product data must bear the original number of the prior submission, the original titles and next sequential revision number.

3.0.6.1 Transmittal Form

The Contractor must indicate the following information on the Transmittal Form:

1. Project name, NYC DDC Project number and Contract Number.
2. Date
3. Destination (To:).
4. Source (From:).
5. Unique identifier
6. Names of Contractor, subcontractor, manufacturer, and supplier.
7. Category and type of submittal.
8. Submittal purpose and description.
9. Specification Section number, unique identifier and revision number
10. Drawing number and detail references, as appropriate.
11. Transmittal number numbered consecutively.
12. Submittal and transmittal distribution record.
13. Remarks.
14. Signature of transmitter.

4.0 SUBMITTAL FORMAT

4.0.1 Shop Drawings, Product Data, and Quality Assurance Submittals

The Shop Drawings, unless otherwise directed, must be on sheets of the same size as the Contract Drawings, drawn accurately and of sufficient scale to be legible, with a one half (1/2) inch marginal space on each side and a two (2) inch marginal space for binding on the left side.

Shop Drawings and Product Data and Quality Assurance Submittals must be submitted to the PMIS as raster files in Adobe Acrobat ".pdf" format with a minimum resolution of 200 dpi. Each submittal must be readable and printable on the Department’s systems with the following scanning parameters: 400 dpi resolution, autodeskewing and despeckling. Each submittal must contain a list of the submittals and the electronic format of their files. Native file versions of submittals may be requested at the discretion of NYC DDC

Responsibility of the Contractor: The approval of Shop Drawings will be general and must not relieve the Contractor of responsibility for the accuracy of such Shop Drawings, nor for the proper fitting and construction of the work, nor of the furnishing of materials or work required by the Contract and not indicated on the Shop Drawings. Approval of Shop Drawings must not be construed as approving departures from the Contract Drawings, Supplementary Drawings or Specifications.

Electronic copies of submittals uploaded to the PMIS must utilize the following standard file naming convention

Year		Four (4) digit year, i.e.: 2019
Month		Two (2) digit month, i.e.: June = 06
Day		Two (2) digit day, i.e. 28

DDC		NYC DDC
Project		Applicable project ESCR, BMCR, BPCR, RHCR
Sandy Ref.		SR = Superstorm Sandy Resilience
Specification		Applicable Specification section, i.e.: 03300
Submittal No.:		Sequential number within the specification section, i.e..: 0001
Rev		The 2-digit revision or version number i.e.: 03
Descr		Document title (short description, think Google key words, include sender/recipient acronyms if appropriate)

i.e.: 2019-06-28_DDC_ESCR_SR_03300-0001-03_Product_data_name

File naming guidelines:

Dates (Final Documents)

Dates should always be presented 'back to front', that is with the year first (always given as a four-digit number), followed by the month (always given as a two-digit number), and the day (always given as a two-digit number) such as "20190801" or 2019-08-01" for August 1st, 2019. Dates in file names are used to identify issued records and to differentiate between multiple "final" issuances of the same document.

Keep File Names Short but Meaningful

Some words add length to a file name but do not contribute towards the meaning, for example words like "the", "a", "to" and "and". Use industry-standard nomenclature or an abbreviation of same wherever possible.

No Spaces in File Names

Use an underscore "_" or a dash "- ", and words for ease in sorting. Use of caps to distinguish words for ease of reading is encouraged (e.g. DocumentManagementPlan or Document_Management_Plan). Spaces between words increase the software system naming characters and should be avoided.

Numbers in File Names

When file names include numbers, it is important to include the zero for numbers 0-9 to maintain the numeric order. This helps to retrieve the latest record number. i.e. 01, 02 … 99, unless it is a year or another number with more than two digits.

Special Characters

The use of special characters can cause problems with uploading, viewing and downloading documents over the internet. Special characters, such as: (~ " # % & * : < > ? / \ { | } @ $ ^ , ?) should not be used in filenames. Even if one's operating system allows filenames with those characters there can be issues when trying to transport files to another system.

Correspondence Files

It is recommended that the file names of correspondence include the name of the correspondent, an indication of the subject, and the date of the correspondence, e.g.: 2019-11-07_DDC_ESCR_SRM1_HNTB-DDC_Sample_Report_R02

4.0.2 Requests for Information (RFIs)

RFIs and other queries of the Design Consultant must be submitted to the PMIS using the forms specifically prepared for this purpose by the Design Consultant.

4.0.3 As-Builts

CADD record drawing (as-built) files submitted by the Contractor must be vectorized, computer-generated drawing files in the latest version of native MicroStation ".dgn" format. Each submittal must include the resource files such as Cell Libraries, Font Libraries, DGNLIB and reference files used to generate the

CADD drawing files. Record drawings must also be submitted in PDF or other raster format. Each submittal must be provided on CD-ROM or DVD+R and transmitted on the Project Management Information System. Each submittal must have a complete drawing list (drawing number and CADD file name for each drawing).

5.0 SUBMISSION OF SHOP DRAWINGS

Initial Submission: The Contractor must upload the submittal to the PMIS and provide hard copies as indicated in General Conditions for the Design Consultant's review and acceptance. The Engineer will transmit Shop Drawings to appropriate Design Consultants for review and acceptance, including Commissioning Authority/Agent as applicable. A satisfactory Shop Drawing will be stamped "No Exceptions Taken", be dated and returned to the Contractor.

Should the Shop Drawing(s) be marked "Make Corrections Noted" by the Design Consultant, the Engineer will return the Shop Drawings to the Contractor to make the necessary corrections and changes as indicated thereon.

Should the Shop Drawing(s) be "Rejected" or noted "Revise and Resubmit" by the Design Consultant, the Design Consultant will return the Shop Drawings to the Contractor with the necessary corrections and changes to be made as indicated thereon.

The Contractor must make such corrections and again submit the shop drawing to the Design Consultant. The Contractor must revise and resubmit the Shop Drawing as required by the until the Shop Drawings are stamped "No Exceptions Taken" or "Make Corrections Noted".

Commencement of Work: No work or fabrication called for by the Shop Drawings must be performed until acceptance of the said drawings by the Design Consultant. In addition to the foregoing Shop Drawing transmissions, a copy of any Shop Drawing prepared by any of the Contractor's subcontractors which Shop Drawing indicated work related to, adjacent to, impinging upon, or affecting work to be done by other subcontractors must be transmitted to the subcontractors so affected.

Variations: If the Shop Drawings show variations from the Contract requirements because of standard shop practice or other reasons, the Contractor must make specific mention of such variations in its letter

of submittal. Acceptance of the Shop Drawings will constitute acceptance of the subject matter thereof only.

6.0 SUBMISSION OF PRODUCT DATA

Except as otherwise prescribed herein, the submission, review and acceptance of Product Data and Catalogue cuts must conform to the procedures specified above.

Submissions of Product Data must include the following information, as applicable:

1. Manufacturer’s written recommendations.
2. Manufacturer's product specifications.
3. Manufacturer's installation instructions.
4. Standard color charts.
5. Manufacturer’s catalog cuts.
6. Wiring diagrams showing factory-installed wiring.
7. Printed performance curves.
8. Operational range diagrams.
9. Mill reports.
10. Standard product operation and maintenance manuals.
11. Compliance with specified referenced standards.
12. Testing by recognized testing agency.
13. Application of testing agency labels and seals.
14. Notification of coordination requirements.

The Contractor must submit Product Data before or concurrent with Samples of Materials.

7.0 SUBMISSION OF SAMPLES OF MATERIALS

Samples must be submitted in triplicate, of sufficient size to show the quality, type, range of color, finish and texture of the material.

Each of the samples must be labeled as follows:

1. Name of the Project, NYC DDC Project Number and Contract Number.
2. Name and quality of the material.
3. Date.

8.0 SUBMISSION OF PHOTOS

All electronic photographs must be uniquely identified, include the project abbreviation, identify the location depicted in the photo, date photo was taken and submitted in Joint Photographic Experts Group (JPEG) (.jpg) file format, sized at a minimum resolution of 1024 by 768 pixels. Save grayscale or color photo images that are scanned in JPEG (.jpg) file format with medium to low quality compression at a resolution of 200 dpi.

B3. SPECIAL CONDITIONS FOR MARITIME, WATERFRONT, AND FLOATING PLANTS

1.0 FLOATING PLANTS – GENERAL

1.0.1 Definition

Floating plant/vessel: used to transport personnel, work boats, floating cranes and derricks, barges, patrol boats, etc.

1.0.2 References

1. United States Army Corps of Engineers EM-385
2. OSHA 29 CFR

2.0 REQUIREMENTS

2.0.1 Floating Plant Inspection and Certification

All floating plants (i.e. regulated by the United States Coast Guard (USGC)) shall have required USCG documentation that is current before being placed in service. A copy shall be posted in a public area on board the vessel. A copy of any USCG Form 835 issued to the vessel in the preceding year shall be available to the Engineer and a copy shall be on board the vessel.

All dredges and quarter boats not subject to USCG inspection and certification or not having a current ABS classification shall be inspected in the working mode annually by a marine surveyor accredited by the National Association of Marine Surveyors (NAMS) or the Society of Accredited Marine Surveyors (SAMS) and having at least 5 years of experience in commercial marine plant and equipment.

All other plants shall be inspected before being placed in use and at least annually by the Agency required, including but not limited to the USCG for a Certificate of Inspection (COI), a marine surveyor (in the case of barges and/or vessels, certified crane inspector), professional engineer or the competent person as designated by the Contractor in writing.

The inspection shall be documented, a copy of the most recent inspection report shall be posted in a public area on board the vessel, and a copy shall be furnished to the Engineer upon request. A copy shall also be provided to the Engineer.

The inspection shall be appropriate for the intended use of the plant and shall, as a minimum, evaluate structural condition, compliance with safety requirements and compliance with NFPA 302.

Periodic inspections as defined in writing by the Contractor and tests shall assure that a safe operating condition is maintained.

Floating plants found in an unsafe condition shall be taken out of service and its use prohibited until unsafe conditions have been corrected.

2.0.2 Personnel Qualifications

Vessel Captains shall be in possession of a current, valid USCG license, which shall be posted in a public area on board the vessel, including any required and correctly endorsed documents as required by the USCG.

Crane Operators shall be licensed or certified in accordance with the requirements outlined by the NYC Department of Buildings, Cranes and Derricks

Operators of the floating plant shall be licensed and/or documented by the USCG when the plant is subject to one or more of the following criteria:

1. The vessel is inspected and certified by USCG in accordance with EP 1130-2-500, Appendix L;
2. The vessel is normally engaged in or near a channel or fairway in operations that restrict or affect navigation of other vessels and is required by law to be equipped with radio-telephones of the 156-162 band frequency; or
3. Floating plant is engaged in the transfer of oil or hazardous material in bulk.
4. A USCG Radar Observers endorsement on licenses is required for Operators of Uninspected Towing Vessels and Masters and Pilots on radar-equipped vessels 26 ft (7.9 m) or more in length. Endorsements must be issued from a USCG-approved training facility.

2.0.3 Record Keeping

All records for drills, inspections, maintenance and other legal requirements shall be maintained on site by the Contractor with copies provided on a weekly basis to the Engineer.

All records shall be reviewed and signed by the competent person, as designated in the Contractor's health and safety plan, and by the Contractor's Health and Safety Manager.

All legal inspections required by the USCG and other Agencies shall be conspicuously displayed on the floating equipment.

2.0.4 Severe Weather Precautions

Since floating plant, boats or other marine activities may be endangered by severe weather (including sudden and locally severe weather, storms, high winds, hurricanes, and floods), plans shall be made for removing or securing plant and evacuation of personnel in emergencies. > See Section 01.E. This plan shall be part of the Contractor's Health and safety plan and shall include at least the following:

1. A description of the types of severe weather hazards the plant may potentially be exposed to and the steps that will be taken to guard against the hazards;
2. The time frame for implementing the plan (using as a reference the number of hours remaining for the storm to reach the work site if it continues at the predicted speed and direction), including the estimated time to move the plant to safe harbor after movement is started;
3. The name and location of the safe location(s);
4. The name of the vessel(s), type, capacity, speed, and availability that will be used to move any non-self-propelled plant;
5. River/tide gage readings at which floating plant must be moved away from dams, river structures, etc., to safe areas;
6. Method for securing equipment if not moved.

Extended movement of floating plant and tows shall be preceded by an evaluation of weather reports and conditions by a responsible person to ascertain that safe movement of the plant and tow can be accomplished.

Work or task orders shall be preceded by an evaluation of weather reports and conditions by the Contractor's Director of Safety on site to ascertain that safe working conditions exist and safe refuge of personnel is assured.

USCG approved personal flotation devices (PFDs) - Types I, II, III, or V - shall be worn by all personnel on decks exposed to severe weather, regardless of other safety devices used. USCG-approved Type V automatic inflatable PFDs rated for commercial use may be worn by workers on USACE sites per Section 05.J.02.

A sufficient number of vessels of adequate size and horsepower, each designed, outfitted, and equipped for towing service, shall be available at all times to move both self- and non-self-propelled plant against tides, current, and winds during severe weather conditions.

Contractors working in an exposed marine location shall monitor the National Oceanic and Atmospheric Administration (NOAA) marine weather broadcasts and use other commercial weather forecasting services as may be available.

The floating plant shall be capable of withstanding whatever sea conditions may be experienced in the work area during the time period the work is being performed (i.e., seaworthiness, or good “sea keeping” qualities).

2.0.5 Emergency Planning

1. On any inspected vessel, all emergency planning is to be provided in accordance with USCG requirements.
2. Plans shall be prepared for response to marine emergencies such as fire, sinking, flooding, severe weather, man overboard, hazardous material incidents, etc.
3. A station bill, setting forth the special duties and the duty station of each crewmember for various emergencies, shall be prepared and posted in conspicuous locations throughout the vessel.
4. Each crewmember shall be given a written description of, and shall become familiar with, their emergency duties and shall become familiar with the vessel's emergency signals.
5. "Abandon ship/boat" and "person overboard" procedures shall include instructions for mustering personnel.
6. On all floating plant that have a regular crew or on which people are quartered, the following drills shall be held at least monthly during each shift (unless the vessel is required, under USCG regulations, to be drilled more frequently): abandon ship/boat drills, fire drills, and person overboard or rescue drills.
    a. The first set of drills shall be conducted within 24 hours of the vessel's occupancy or commencement of work.
    b. Where crews are employed or quartered at night, every fourth set of drills shall be at night; the first set of night drills shall be conducted within the first 2 weeks of the vessel's occupancy.
    c. Drills shall include, where appropriate, how to handle a pump shell or pipe rupture or failure within the hull (proper shutdown procedures, system containment, etc.) and how to handle leaks or failures of the hull or portions of it (what compartments to secure, how to handle power losses, pulling spuds to move to shallow water, etc.).
    d. Person overboard or rescue drills shall be held at least monthly at boat yards, locks, dams, and other locations where marine rescue equipment is required.
    e. Emergency lighting and power systems shall be operated and inspected at least monthly to ensure proper operation.
    f. Storage batteries for emergency lighting and power systems shall be tested at least once every 2 months.

2.0.6 Equipment Requirements

1. All equipment shall be maintained in accordance with manufacturers recommendations and requirements, as well as the requirements of any Agency providing certifications and inspections (such as the USCG COI or Crane Inspections) for equipment, the floating plant and/or vessels.
2. Fenders shall be provided to prevent damage and sparking and to provide safe areas for workers exposed to pinching situations caused by floating equipment.

3. Axes or other emergency cutting equipment shall be sharp and provided in accessible positions on all towing vessels for use such as freeing lines. On other floating plant (i.e., work barges, and floating cranes) emergency cutting equipment shall be provided in accessible positions.
4. Signal devices shall be provided on all vessels to give signals required by the navigation rules applicable to the waters on which the vessel is operated.
5. All controls requiring operation in cases of emergency (i.e., boiler stops, safety valves, power switches, fuel valves, alarms, and fire extinguishing systems) shall be located so that they are protected against accidental operation but are readily accessible in an emergency.
6. Electric lights used on or around gasoline and oil barges or other marine locations where a fire or explosion hazard exists shall be explosion-proof or approved as intrinsically safe.
7. General alarm systems shall be installed and maintained on all floating plant where it is possible for either a passenger or crewman to be out of sight or hearing from any other person.
8. Where general alarm systems are used they shall be operated from the primary electrical system with standby batteries on trickle charge that will automatically furnish the required energy during an electrical-system failure.
9. A sufficient number of signaling devices shall be placed on each deck so that they can be distinctly heard/seen above the normal background noise at any point on the deck.
10. All signaling devices shall be so interconnected that actuation can occur from at least one strategic point on each deck.
11. For floating plant with internal combustion engines, marine quality listed CO monitors shall be installed and maintained in all enclosed occupied spaces (crew quarters, pilot houses, etc.).
12. All doors shall be capable of being opened from either side and provided with positive means to secure them in both the open and closed position.
13. Escape hatches and emergency exits shall be marked on both sides with letters, at least 1 in (2.5 cm) high, stating "EMERGENCY EXIT - KEEP CLEAR."
14. Each prime mover (engine, turbine, motor) driving a deck winch shall be capable of being stopped by controls remote from the prime mover locations.
15. Shore power receptacles shall have a grounding conductor to prevent potential difference between the shore and the vessel.
16. All 120-, 208-, and 240-volt shall be grounded and fitted with Ground Fault Circuit Interrupter (GFCI) protection.
17. Cord connected equipment used in any of the above areas shall be connected to an outlet with GFCI protection.
18. Ground-fault protected receptacles shall be conspicuously marked “GFCI PROTECTED”.
19. Where appropriate, vessels should have watertight compartments readily identified and properly maintained in a watertight condition (i.e., sealable doors in place and fully functional). Penetrations shall be maintained in a watertight condition.
20. All reciprocating, rotating and moving parts of winch gears and other equipment shall be properly guarded.

2.0.7 Fuel Systems and Fuel Transfers

1. The provisions of the Oil Pollution Act of 1990, as amended, shall apply to floating plant operations as applicable
2. Gauge glasses or try cocks shall not be installed on fuel tanks or lines unless they meet the requirements of 46 CFR 58.50-10.
3. A shutoff valve shall be installed at the fuel tank connection: arrangement shall be made for operating this valve from outside the compartment in which the tank is located and from outside the engine compartment and outside the house bulkheads at or above the weather deck of the vessel.
4. A shutoff valve shall be installed at the engine end of the fuel line unless the length of the supply pipe is 6 ft (1.8 m) or less.

5. All carburetors on gasoline engines shall be equipped with a backfire trap or flame arrestor.
6. All carburetors, except down-draft type, shall be provided with a drip pan, with flame screen, that is continuously emptied by suction from the intake manifold or by a waste tank.
7. Fuel and lubricant containers and tanks shall be diked, curbed or controlled by other means complying with USCG requirements to contain the tank contents in case of leakage in accordance with 46 CFR 98.30-15, and 33 CFR 155.320.
8. Fuel oil transfers for floating plant shall be in accordance with the provisions of USCG regulations, 33 CFR 155, and/or 33 CFR 156. For uninspected vessels, USCG regulations in 33 CFR 156.120 and 33 CFR 155.320 for fuel coupling devices and fuel oil discharge containment apply.
9. All decks, overheads, and bulkheads, serving as fuel oil tank boundaries shall indicate the tank boundary with contrasting paint and be labeled “FUEL OIL TANK - NO HOT WORK”.

2.0.8 Safe Practices

1. The Contractor shall incorporate all safe practices into their Health and Safety plan to include training and inspection by the designated competent persons.
2. Obstructing cables/lines that cross waterways between floating plant or between plant and mooring shall be clearly marked.
3. Provisions shall be made to prevent accumulation of fuel and grease on floors and decks and in bilges.
4. Swimming and/or diving shall be prohibited for all personnel, except certified divers in the performance of their duties, unless necessary to prevent injury or loss of life.
5. Wading is permitted only when there are no severe underwater hazards such as sudden drop-offs, heavy surf above 3 ft (1 m), dangerous aquatic life, etc. Personnel wading shall wear an approved PFD and shall be monitored by personnel who are nearby and equipped to conduct a rescue if needed. Wading shall be discontinued when the person’s feet cannot easily touch bottom, regardless of depth.
6. A person in the water shall be considered as a person overboard and appropriate action shall be taken.
7. When barriers or blanks are installed in piping systems as a lock-out procedure, positive means (such as protruding handles) shall be used to easily recognize their presence. Barriers shall be marked (including name of installer, name of inspector, and date of installation) and accounted for prior to installation and subsequent to removal.
8. Deck loading will be limited to safe capacity. Loads will be secured and holdbacks or rings will be provided to secure loose equipment during rough weather.
9. Safeguards such as barriers, curbs, or other structures shall be provided to prevent front-end loaders, bulldozers, trucks, backhoes, track hoes, and similar operating equipment on floating equipment from falling into the water. Whenever this equipment is operating on deck, deck surfaces of floating plant shall remain above water and the entire bottom area of a floating plant shall remain submerged.
10. Projection and tripping hazards shall be removed, identified with warning signs, or distinctly marked with safety yellow.
11. Deck cargo carried on fuel barges shall be placed on dunnage.
12. When two or more pieces of floating plant are being used as one unit, they shall be securely fastened together to prevent openings between them or the openings shall be covered or guarded.
13. When three or more floating plant are configured for stationary work, a competent person shall identify any openings between decks of stationary vessels or vessels and other structures that create fully enclosed water areas (duck ponds) into which personnel can fall. If such openings are detected, means shall be taken to protect personnel from the hazard.

14. When physical barriers are not practical, ladders and life rings shall be installed in each enclosed water area to allow personnel to self-rescue. Ladders may be a rigid type or Jacob's ladder, and must be securely anchored to the vessel or structure. Life rings shall have a sufficient length of rope to allow them to float on the water surface and the rope shall be securely anchored to the vessel. The number and placement of ladders and life rings shall be sufficient so that the maximum swimming distance to them is no more than 25 ft (7.9 m). Ladders and life rings may be retracted during reconfiguration or movement of plant.
15. Anchor points shall be clearly identified and shall be inspected prior to applying a load or putting cables under tension. Anchor points not structurally sound shall be cut out, removed, and/or welded over to preclude usage. Visual checks and "all clear" warnings shall be made prior to tensioning cables.
16. Provisions shall be made to protect persons being transported by water from the elements
17. Plant fleeting areas will be designated in which all idle plant shall be moored. Such areas shall have warning buoys, signs, and lights in prominent locations.
18. The Contractor or, for Government-conducted operations, the Engineer, shall provide information to the local USCG Office identifying the marine activity and hazards.
19. Open or pelican hooks may be used for lifting anchor buoys.
20. Mechanical means such as securing pins shall be used to hold spuds safely in place before transiting from one site to another
21. When there is a potential for marine activities to interfere with or damage utilities or other structures, including those underwater, a survey shall be conducted to identify the utilities or structures in the work area, analyze the potential for interference or damage, and recommend steps to be taken to prevent the interference or damage.

2.0.9 Ventilation

1. In all circumstances and configurations, all ventilation requirements on floating plants and vessels must meet all applicable codes and requirements.
2. Motor vessels or boats powered by internal combustion engines having electric spark ignition systems or having auxiliary engines of this type in cabins, compartments, or confined spaces shall be equipped with an exhaust fan(s) for ventilating engine space and bilges.
3. At least two ventilators fitted with fans capable of ventilating each machinery space and fuel tank compartment, including bilges, shall be provided to remove any flammable or explosive gases, except those vessels constructed with the greater portions of the bilges open or exposed to the natural atmosphere at all times. Note: this requirement does not apply to diesel engines.
4. Other compartment spaces within a vessel, not covered in this Section, may be naturally vented.
5. For launches and motorboats having diesel power plants not equipped with fans, ventilating shall be by natural draft through permanently open inlet and outlet ducts extending into the bilges. Inlet and exhaust ducts shall be equipped with cowls or exhaust heads.
6. For launches, motorboats (survey boats), and skiffs having deck-mounted internal combustion engines (such as generators, jigger pumps) and not equipped with fans, exhaust piping shall be located away from personnel spaces to minimize CO infiltration in the work space
7. Vent and ventilator requirements.
    a. Fans shall be rated for Class I hazardous locations and located as remotely from potential explosive areas as practical. > See Section 11.H.
    b. The vent intake shall extend to within 1 ft (0.3 m) of the bottom of the compartment
    c. Means shall be provided for stopping fans in ventilation systems serving machinery components and for closing doorways, ventilators, chases, and annular spaces around tunnels and other openings from outside these spaces in case of fire.
    d. Engines shall not be started until the engine space and bilges have been ventilated to remove fuel vapor.

2.0.10 Navigation

The most current, pertinent information published by the USCG regarding aids to navigation shall be maintained aboard self-propelled vessels 26 ft (7.9 m) or more in length.

2.0.11 Access

2.0.11.1 General

1. Means of access shall be properly secured, guarded, and maintained free of slipping and tripping hazards.
2. Non-slip surfaces shall be provided on working decks, stair treads, ship ladders, platforms, catwalks, and walkways, particularly on the weather side of doorways opening on deck.
3. Double rung or flat tread type Jacob's ladders shall be used only when no safer form of access is practical. When in use, they shall hang without slack and be properly secured.
4. Vertical ladders shall comply with ASTM F1166-95a.
5. Ladders shall not be climbed by more than one person at a time between the same set of rails.

2.0.11.2 Access To/From Vessels

Safe means for boarding or leaving a floating plant shall be provided and guarded to prevent persons from falling or slipping thereon. Walking on rip-rap should be avoided where practical.

A stairway, ladder, ramp, gangway, personnel hoist or other safe means of access shall be provided at personnel points of access with breaks of 19 in (48.2 cm) or more in elevation.

Ramps for access of equipment and vehicles to or between vessels shall be of adequate strength, be provided with sideboards, and be well maintained.

Gangways and ramps shall be:

1. Secured at one end by at least one point on each side with lines or chains to prevent overturning;
2. Supported at the other end in such a manner to carry them and their normal load during use in the event they slide off their supports;
3. Placed at an angle no greater than that recommended by the manufacturer; and
4. Provided with a standard guardrail (toe boards are optional depending on their usefulness and the hazard involved).

2.0.11.3 Access on Vessels.

Vertical access shall be provided between various decks by means of stairs, ramps, or vertical ladders installed in accordance with ASTM F1166.

Employees shall not be permitted to pass fore and aft, over, or around deck loads unless there is a safe passage.

If cargo or materials are stored on deck of barges, scows, floats, etc., the outboard edge shall not be used as a passageway unless at least 2 ft (0.6 m) of clearance is maintained.

Vessel loads shall be limited so that access and passageways in use will remain above the waterline. Decks and passageways shall not be used for access if submerged or subject to constant breaking waves, except in an emergency.

2.0.11.4 Emergency Access

Vessels, except those easily boarded from the water, shall be equipped with:

1. At least one portable or permanent ladder of sufficient length to allow a person to self-rescue by boarding the ladder from the water, and
2. Other methods or means designed to assist in the rescue of an incapacitated person overboard.
3. Two means of escape shall be provided for normal work, assembly, sleeping, and messing areas on floating plants.
4. Means of access shall be maintained as safe and functional.

2.0.12 Marine Fall Protection Systems

On decks or work surfaces 6 ft (1.8 m) or more above the main deck or 6 ft or more above adjacent vessel decks, docks, or other hard surfaces, Railing Type A or Type B, as described in Section 19.E., or bulwarks, coamings, or other structures meeting the height and strength requirements of these railing systems shall be provided except as excluded in Sections 19.C.03 and 19.C.04.

Deck edge toe boards not less than 3.5 in (8.8 cm) high for Type A and 2 in (5 cm) high for Type B railings shall be provided when the railings are used for fall protection. Toe boards shall meet the strength requirements in Section 21.F.01.f. Scuppers and/ or drainage holes may be installed as needed as long as the top edge of the toeboard is intact and the strength requirements are retained.

Personal fall protection systems meeting the requirements of Section 21.I may be used when railing systems are not installed.

Railing systems and personal fall protection systems are not considered feasible on the main deck of vessels that perform duty cycle material loading and unloading operations from barges, scows or other vessels alongside.

2.0.13 Main Deck Perimeter Protection

Main deck perimeter protection systems are intended to provide protection against falling overboard. Main deck perimeter protection is required on all manned vessels, except where excluded in Section 19.D.05. Unmanned vessels do not require perimeter protection, however, fall protection shall be provided where the vessel configuration and operation exposes personnel to falls onto a hard surface from vertical distances greater than 6 ft (1.8 m). The design parameters for the different types of main deck railing systems listed in this Section are in Section 19.E unless otherwise noted.

Manned vessels are vessels that operate with crews, or quartered personnel, or that have work areas that are occupied by assigned personnel during normal work activities.

Unmanned vessels are typically those that carry cargo such as materials, supplies, equipment, or liquids, and do not have personnel on board except during loading and unloading and during short term operations such as tie-down, inspections, etc.

Manned vessels over 26 ft (7.9 m) in length operating in unprotected or partially protected waters (as defined in 46 CFR) shall have Type B Railings provided around the deck edge, except where excluded in Section 19.D.05.

Manned vessels over 26 ft (7.9 m) in length operating in rivers or protected waters shall have Type B or Type C Railings provided around the deck edge, except where excluded in Section 19.D.05.

Type D Grab rails shall be provided on all manned vessels in the following instances:

1. On deckhouses or other similar permanent structures more than 48 in (1.2 m) from deck edge rail systems
2. On deck houses or similar permanent structures that are within 8 ft (2.5 m) of the deck edge in areas where the deck edge rail has been omitted or may be temporarily removed in accordance with Section 19.D.05.

The following are main deck areas where perimeter protection may be omitted or temporarily removed:

1. Deck perimeter rails may be omitted from deck work areas specifically intended for line handling, working over the side of the vessel, load handling operations and designated boarding areas. Railings in these areas may obstruct work or access and present additional hazards such as pinch points against railings. Such deck edge areas may include those for line handling, fleeting scows, mooring vessels, towing, pile driving activities, and handling or placing of construction materials and equipment pipelines, and anchors.
2. Deck Perimeter rails may be omitted from main deck areas where the overall walkway width is less than 2 ft (0.6 m) between deck structures/permanent equipment and the deck edge.
3. Removable perimeter rail sections may be installed in areas where activities such as working over the side of the vessel or loading operations are not normally performed. These rails shall be maintained in place when vessel operations do not include activity in these areas or during periods of tie-up or inactivity.

When deck-edge perimeter protection is not present, standard operating procedures in the Health and Safety Plan in accordance with USCG and OSHA requirements or other documents shall be developed to address the hazards involved. These documents shall be reviewed by all crew during initial orientation and at regular intervals afterward. The following operational procedures shall be followed:

1. PFD’s must be worn by personnel in areas where deck perimeter protection is not present. Such areas may be used by crew to transit or access areas of the boat, but when doing so, all other requirements of this Section must be met. Areas where railings are removed shall be blocked off from access by a suitable barrier, or shall be clearly marked as PFD- required areas by signage, deck markings, or other means;
2. Continuous sight and verbal/radio contact shall be maintained between personnel in the non-protected deck perimeter areas and the vessel operator or a designated crew member who is in sight and verbal/radio contact with the operator, and who will monitor the workers in the area;
3. A safety skiff or equivalent rescue vessel shall be readily available throughout the duration of these activities in accordance with Section 05.K.

Boats with length 26 ft (7.9 m) or less shall be provided with integrated combinations of two or more of the below listed items to provide continuous perimeter protection around the vessel: Cockpits; Coamings; Handholds; Toe Rails; Life Rails; Deck Rails; Stern Rails and Bow Rails. The installations shall be in accordance with either ABYC Standards or ISO Standard 15085, as demonstrated by a manufacturer’s certificate, label or other documentation.

Marine Railing Types.

Allowable types of railings on vessels (A, B, C, & D) are identified below. Specific requirements for the vessel types and areas where each may be used are delineated in Sections 19.G and 19.H. > See Appendix F.

Railing Type A: Two-Tier Rigid Fall Protection Rail. This railing is comprised of rigid vertical stanchions and two rigid horizontal tiers in accordance with Section 21.F.01. Minimum top rail height is 42 in +/- 3 in (106.6 cm +/- 7.6 cm) and the lower horizontal tier is at half height.

Railing Type B: Three-Tier Marine Rigid or Tensioned Railing. This railing is comprised of rigid vertical stanchions and three rigid or tensioned horizontal tiers. The following parameters apply:

1. Clear spacing between tiers shall be no greater than 9 in (22.8 cm), 15 in (38 cm) and 15-in respectively. The 9-in space is closest to the deck surface. Minimum height from deck to the top tier may not be less than 39 in (99 cm).

2. The 9-in, 15-in and 15-in tier spacing above may not be exceeded.
3. The bottom tier may be omitted in way of deck fittings or in order to facilitate line handling. The space resulting from the removed lower tier may not extend more than 2 ft (0.6 m) beyond either side of the deck fitting.
4. Vertical stanchions may be pipe or structural sections. Horizontal tiers may be constructed from rigid (pipe or structural sections) or non-rigid (wire rope or chain) components, or from combinations of these components. Non-rigid tiers must be tensioned with turnbuckles or similar components.
5. Railings may be either fixed or removable in sections. All vertical stanchions must be adequate to withstand a 200 lbs (60.9 kg) load applied horizontally at the top of the stanchion. Stanchion spacing may not exceed 8 ft (2.4 m).
6. Pipe or structural section rail components shall be sized appropriately to meet NYCDOB Code.
7. Chain or wire rope together with all connecting fittings shall have minimum breaking strength of 4,000 lbs (1814.3 kg).

Chain or wire rope horizontal tiers shall be tensioned so that:

1. There is no slack;
2. Sag does not exceed 1/4 in (.62 cm) at any point between stanchions, and
3. The lowest point from deck to the top of the upper rail may not be less than 39 in (1 at any point between the stanchions. Tensioned railing tiers shall not deflect more than 1 in (2.5 cm) under a load of 200 lbs (60.9 kg).

Solid bulwarks or coamings providing equal perimeter protection to a height of 39 in (1 m) may also be provided. Bulwarks may be constructed of structural plate and shapes. Bulwarks must meet all strength/deflection/open spacing requirements presented above for railings.

Railing Type C: Non-Tensioned Railings and Flexible or Swing-Away Railings shall consist of rigid vertical stanchions with horizontal non-tensioned chain, wire rope or rigid tiers that clip to the verticals.

Non-Tensioned Railings shall consist of horizontal tiers constructed from chain, wire rope, pipe or structural sections or combinations of these components. Vertical stanchions shall be pipe or structural sections. Vertical support spacing shall not exceed 8 ft (2.4 m).

Flexible or Swing-Away Rails shall consist of chain or wire rope tensioned vertical support lines with non-tensioned chain, wire rope or clip-on rigid horizontal tiers. Vertical support line spacing shall not exceed 6 ft (1.8 m).

Pipe or structural section rail components shall be sized appropriately to meet the performance criteria of NY Chain or wire rope together with all connecting fittings shall have minimum breaking strength of 4,000 lbs (1800 kg).

For Non-Tensioned Railings and Flexible or Swing-Away Railings, sag of horizontal tiers shall not exceed 3 in (10 cm) between vertical supports.

Non-Tensioned Railings and Flexible or Swing-Away Railings shall be configured with four or more horizontal tiers. The number of horizontal tiers shall be sufficient to meet the following requirements:

1. Effective clear spacing between the deck and bottom tier shall be no greater than 9 in (22.8 cm).
2. Effective clear spacing between all tiers above the bottom tier shall be no greater than 15 in (38.1 cm).
3. Effective minimum height from deck to the top tier may not be less than 39 in (1 m).

The effective tier spacing identified above includes the effect of the increased spacing associated with sag in the tiers, applied either up or down. Clear spacing measurements shall be made with the railing tiers spread to form the largest opening.

Railing height is reduced by the amount of sag in the tiers. Railing minimum height shall be measured at the lowest point in the rail.

The bottom tier may be omitted in way of deck fittings or in order to facilitate line handling. The space caused by the removed lower tier may not extend more than 2 ft (0.6 beyond either side of the deck fitting.

The top tier may not deflect to a height less than 39 in (1 m) above the deck under a force of 200 lbs (60.9 kg), applied vertically. In addition, the top tier may not deflect more than 12 in (30.4 cm) horizontally under a force of 200 lbs applied horizontally.

Tensioning springs in the vertical support lines, if provided, must be of the compression with drawbar type.

2.0.14 Launches, Motorboats and Skiffs

Crew requirements

In the following circumstances a qualified employee shall be assigned to assist with deck duties:

1. When extended trips including overnight trips are made from the work site;
2. When conditions of navigation make it hazardous for an operator to leave the wheel while underway;
3. When operations being performed, other than tying-in, require the handling of lines;
4. When operating at night or during inclement weather;
5. When towing; or
6. While a vessel is transporting crew or passengers.

A qualified employee is any individual who has established, to the satisfaction of the operator of the vessel that he/she is physically and mentally capable of adequately performing the deck duties to which he/she may be assigned.

Personnel and cargo requirements

1. The maximum number of personnel and weight that can safely be transported shall be posted on all launches, motorboats, and skiffs. The number of personnel (including crew) shall not exceed the number of PFDs aboard.
2. Each boat shall have sufficient room, freeboard, and stability to safely carry the cargo and number of persons allowed with consideration given to the weather and water conditions in which it will be operated.
3. Launches, motorboats and skiffs less than 20 ft (6 m) in length shall meet 33 CFR 183 requiring level floatation after flooding or swamping.
4. All open cabin launches or motorboats shall be equipped with “kill (dead man) switches”.

Float Plans

Float plans shall be prepared by the operator of a launch or motorboat when engaged in surveying, patrolling, or inspection activities that are remote and are expected to take longer than 4 hours or when the operator is traveling alone. The plan shall be filed with the boat operator’s supervisor and shall contain the following, as a minimum:

1. Vessel information (make/model or local identifier);
2. Personnel on-board;
3. Activity to be performed;
4. Expected time of departure, route, and time of return;
5. Means of communication (adequate means of communication shall be provided).

All motorboat operators shall complete and document the following training:

1. A boating safety course meeting the criteria of the USCG Auxiliary, National Association of Safe Boating Law Administrators (NASBLA), or equivalent;
2. Motorboat handling training, based on the type of boats they will operate, provided by qualified instructors (in-house or other). Operators must pass a written and operational test;
3. Current USCG licensed personnel are exempt from the boating safety training, but they shall complete the written exam and operational test;

2.0.15 Scows and Barges

Scows dumping in open ocean waters should be equipped with remote opening devices to preclude the transfer of personnel between the vessels.

A safe means for transferring personnel between the towing vessels and scow shall be provided in accordance with Section 19.B.02.

The Contractor shall identify general and site-specific adverse weather and sea conditions (e.g., currents) under which the towing of scows or cargo barges is prohibited.

All barges and scows that are used as deck cargo barges shall comply with 46 CFR 174.010 through 174.020 for intact stability of deck cargo barges.

Personal fall protection devices or other fall protection as listed hereinC shall be used on all scows and open barges to prevent personnel transiting between the stern and bow of the vessel from falling into the hopper or falling off the side of the vessel to structures (e.g. dock, vessels) located 6 ft (1.8 m) or more below.

2.0.16 Personal Flotation Devices

Inherently buoyant Type III, Type V work vests, or better USCG-approved personal flotation devices (PFDs) shall be provided and properly worn in closed fashion (zipped, tied, latched, etc.) by all persons in the following circumstances:

1. On floating pipelines, pontoons, rafts, or stages;
2. On structures or equipment extending over or next to water except where guardrails, personal fall protection system, or safety nets are provided for employees;
3. Working at night, where there are drowning hazards i.e. working over or within 5 ft of the water, regardless of other safeguards provided;
4. In skiffs, small boats, or launches, unless in an enclosed cabin or cockpit; or
5. Whenever there is a drowning hazard.

Automatic-Inflatable PFDs Type V or better, USCG-approved for Commercial Use, may be worn by workers in lieu of inherently buoyant PFDs (see conditions 05.J.01.a-eabove), provided the following criteria is met:

1. PFDs are worn only by workers over 16 years of age and those who weigh 90 lb(40.8 kg) or more;
2. An AHA shall be developed for the intended activity and shall be used to select the most appropriate PFD for the activity;
3. PFDs used in heavy construction or maintenance activities or where hot work (welding, brazing, cutting, soldering, etc.) is to be performed must be designed, tested and certified by the manufacturers for this type of work;
4. PFDs shall provide a 30-pound minimum buoyancy, post-deployment, and shall have status indicator window;
5. Personnel shall be trained in the use, maintenance, restrictions, care, storage, inspection and post-deployment procedures per manufacturer’s instructions

6. The USCG-approval for auto-inflatable PFD's is contingent upon the PFD being worn, not stowed. All auto-inflatable PFDs must be worn at all times a drowning hazard exists
7. In-water testing is required for all first time users so that wearers become familiar with the feel and performance of the PFD.
8. All wearable PFDs shall be of an international orange (or orange/red) or ANSI 107yellow-green color.
9. Each inherently buoyant PFD shall have at least 31 in2 (200 cm of retroreflective material attached to its front side and at least 31 in2 (200 cm2on its back side, per USCG b. Each auto-inflatable PFD shall have at least 31 in2 (200 cm2
10. Each PFD shall be equipped with a USCG-approved automatically activated light. Lights are not required for PFDs on projects performed exclusively during daylight hours.
11. Before and after each use, the PFD shall be inspected for defects that would alter its strength or buoyancy.

Throwable devices (Type IV PFD).

1. On USCG-inspected vessels, ring buoys are required to have automatic floating electric water lights (46 CFR 160).
2. On all other floating plant and shore installations, lights on life rings are required only in locations where adequate general lighting (e.g., floodlights, light stanchions) is not provided. For these plant and installations, at least one life ring, and every third one thereafter, shall have an automatic floating electric water light attached.
3. All PFDs shall be equipped with retroreflective tape in accordance with USCG requirements.
4. Life rings (rope attachment not required) and ring buoys (rope attachment required)shall be USCG-approved; shall have at least 90 ft (27.4 m) of 3/8 in (0.9 cm) of attached solid braid polypropylene, or equivalent. Throw bags may be used in addition to life rings or ring buoys. These throwable devices and lifelines shall be inspected at a minimum, every 6 months and shall be stored in such a manner as to allow immediate deployment and will be protected from degradation from weather and sunlight. Life rings or ring buoys shall be readily available and shall be provided at the following places:
    a. At least one not less than 20 in (51 cm) on each safety skiff up to 26 ft (7.9 m) in length (46 CFR 117.70);
    b. At least one (1) 24 in (61 cm) in diameter on all motor boats longer than 26 ft (7.9m) in length up to 65 ft (19.8 m) in length and for motor boats 65 ft (19.8 m) in length or longer, a minimum 3 life buoys of not less than 24 in (61 cm) and one additional for each increase in length of 100 ft (30.4 m) or fraction thereof; and
    c. At least one (1) at intervals of not more than 200 ft (60.9 m) on pipelines, walkways, wharves, piers, bulkheads, lock walls, scaffolds, platforms, and similar structures extending over or immediately next to water, unless the fall distance to the water is more than 45 ft (13.7 m), in which case a life ring shall be used. (The length of line for life rings at these locations shall be evaluated, but the length may not be less than 90 ft (27.4 m).

2.0.17 Lifesaving and Safety Skiffs

During construction activities, at least one skiff shall be immediately available at locations where employees work over or immediately next to water. Note: This requirement is applicable to any Operations and Maintenance activities that cause an employee to work outside the designed, permanently installed safety controls(i.e., guardrails).

Personnel trained in launching and operating the skiff shall be readily available during working hours. Lifesaving personnel shall perform a lifesaving drill, including the launching and recovery of the skiff, before the initiation of work at the site and monthly thereafter. All records of drills shall be maintained on site and a copy provided to the Engineer.

Skiffs shall be kept afloat or ready for instant launching.

Required equipment must be onboard and meet or exceed USCG requirements. Skiffs shall be equipped as follows:

1. Four (4) oars (two (2) if the skiff is motor powered);
2. Oarlocks attached to gunwales or the oars;
3. One (1) ball-pointed boat hook;
4. One (1) ring buoy with 90 ft (21.3 m) of 3/8 in (0.9 cm) solid braid polypropylene, or equivalent, line attached; and
5. PFDs in number equaling the skiff rating for the maximum number of personnel allowed on board.
6. Fire Extinguisher.
7. In locations where waters are rough or swift, or where manually operated boats are not practical, a power boat suitable for the waters shall be provided and equipped for lifesaving.

Skiffs and power boats shall have buoyant material capable of floating the boat, its equipment, and the crew.

On vessels (such as skiffs) without permanently mounted navigation lights, portable battery-operated navigation lights will be available and used for night operations.

3.0 VESSEL GENERAL PERMIT FOR DISCHARGES INCIDENTAL TO THE NORMAL OPERATION OF VESSELS (VGP)

AUTHORIZATION TO DISCHARGE UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPEDES)

3.01 Reference

https://www3.epa.gov/npdes/pubs/vessel_vgp_permit.pdf

3.02 VGP Authorization

Contractor is required to obtain the VGP Authorization under the NPEDES program with the EPA for all vessels on the project as follows:

1. To obtain authorization under this permit, you must meet the Part 1.2 eligibility requirements. If your vessel meets the requirements under Part 1.5.1.1, you must submit a Notice of Intent (NOI) to receive permit coverage.
2. Prior to NOI submission, owner/operators of these vessels are authorized to discharge under this permit. This automatic authorization extends until owner/operators of vessels that meet the requirements under Part 1.5.1.1 submit NOIs, but shall not extend beyond 9 months after permit issuance.
3. Owner/operators of vessels that meet the requirements under Part 1.5.1.2 are automatically authorized to discharge under this permit and are not required to submit NOIs.

3.03 General Scope of the VGP

This permit is applicable to discharges incidental to the normal operation of a vessel identified in Part 1.2.2 into waters subject to this permit. These waters are “waters of the United States” as defined in 40 CFR 122.2 (extending to the outer reach of the 3 mile territorial sea as defined in section 502(8) of the CWA.) This includes all navigable waters of the Great Lakes subject to the jurisdiction of the United States. Recreational vessels as defined in section 502(25) of the Clean Water Act are not subject to this permit. Such vessels are not subject to NPDES permitting under Section 402 of the Clean Water Act, and are instead subject to regulation under Section 312(o) of the Clean Water Act. In addition, with

the exception of ballast water discharges, non-recreational vessels less than 79 feet (24.08 meters) in length, and all commercial fishing vessels, regardless of length, are not subject to this permit. See P.L. 110-299. Commercial fishing vessels and other non-recreational vessels less than 79 feet are eligible for permit coverage under this permit for their ballast water discharges. If auxiliary vessels or craft, such as lifeboats, rescue boats, or barges onboard large vessels require permit coverage (i.e. they are greater than 79 feet in length), they are eligible for coverage under this permit and are covered by submission of the Notice of Intent for the larger vessels. Nothing in this permit shall be interpreted to apply to a vessel of the Armed Forces as defined in § 312(a)(14) of the Clean Water Act.

Vessel Discharges Eligible for Coverage Unless otherwise made ineligible under Part 1.2.3, the following discharge types are eligible for coverage under this permit:

1. Deck Runoff and Above Water Line Hull Cleaning
2. Bilgewater/Oily Water Separator Effluent
3. Ballast Water
4. Anti-fouling Leachate from Anti-Fouling Hull Coatings/Hull Coating Leachate,
5. Aqueous Film Forming Foam (AFFF)
6. Cathodic Protection
7. Chain Locker Effluent
8. Controllable Pitch Propeller and Thruster Hydraulic Fluid and other Oil Sea Interfaces including Lubrication discharges from Paddle Wheel Propulsion, Stern Tubes, Thruster Bearings, Stabilizers, Rudder Bearings, Azimuth Thrusters, and Propulsion Pod Lubrication
9. Graywater
10. Motor Gasoline and Compensating Discharge
11. Non-Oily Machinery Wastewater
12. Refrigeration and Air Condensate Discharge
13. Seawater Cooling Overboard Discharge (Including Non-Contact Engine Cooling Water; Hydraulic System Cooling Water, Refrigeration Cooling Water)
14. Boat Engine Wet Exhaust
15. Underwater Ship Husbandry

4.0 REFERENCE A

Reference A: OSHA Standards (29 CFR) for Waterfront Construction and Working Near Water

4.01 1926.605 Marine Operations and Equipment

Operations fitting the definition of "material handling" shall be performed in conformance with applicable requirements of Part 1918, "Safety and Health Regulations for Longshoring" of this chapter. The term "longshoring operations" means the loading, unloading, moving, or handling of construction materials, equipment and supplies, etc. into, in, on, or out of any vessel from a fixed structure or shore-to-vessel, vessel-to-shore or fixed structure or vessel-to-vessel.

4.02 1926.605(b) Access to Barges

Ramps for access of vehicles to or between barges shall be of adequate strength, provided with side boards, well maintained, and properly secured.

Unless employees can step safely to or from the wharf, float, barge, or river towboat, either a ramp, meeting the requirements of paragraph (b)(1) of this section, or a safe walkway, shall be provided.

Jacob's ladders shall be of the double rung or flat tread type. They shall be well maintained and properly secured.

A Jacob's ladder shall either hang without slack from its lashings or be pulled up entirely.

When the upper end of the means of access rests on or is flush with the top of the bulwark, substantial steps properly secured and equipped with at least one substantial hand rail approximately 33 inches in height, shall be provided between the top of the bulwark and the deck.

Obstructions shall not be laid on or across the gangway.

The means of access shall be adequately illuminated for its full length.

Unless the structure makes it impossible, the means of access shall be so located that the load will not pass over employees.

4.0.3 1926.605(c) Working Surfaces of Barges

Employees shall not be permitted to walk along the sides of covered lighters or barges with coamings more than 5 feet high, unless there is a 3-foot clear walkway, or a grab rail, or a taut handline is provided.

Decks and other working surfaces shall be maintained in a safe condition.

Employees shall not be permitted to pass fore and aft, over, or around deck loads, unless there is a safe passage.

Employees shall not be permitted to walk over deck loads from rail to coaming unless there is a safe passage. If it is necessary to stand at the outboard or inboard edge of the deck load where less than 24 inches of bulwark, rail, coaming, or other protection exists, all employees shall be provided with a suitable means of protection against falling from the deckload.

4.0.4 1926.605(d) First-Aid and Lifesaving Equipment

Provisions for rendering first aid and medical assistance shall be in accordance with Subpart D of this part.

The employer shall ensure that there is in the vicinity of each barge in use at least one U.S. Coast Guard-approved 30-inch lifering with not less than 90 feet of line attached, and at least one portable or permanent ladder which will reach the top of the apron to the surface of the water. If the above equipment is not available at the pier, the employer shall furnish it during the time that he is working the barge.

Employees walking or working on the unguarded decks of barges shall be protected with U.S. Coast Guard-approved work vests or buoyant vests.

4.0.5 1926.605(e) Commercial Diving Operations

Commercial diving operations shall be subject to Subpart T of Part 1910, 1910.401-1910.441, of this chapter.

4.0.6 1926.106 Working Over or Near Water

Employees working over or near water, where the danger of drowning exists, shall be provided with U.S. Coast Guard-approved life jacket or buoyant work vests.

Prior to and after each use, the buoyant work vests or life preservers shall be inspected for defects which would alter their strength or buoyancy. Defective units shall not be used.

Ring buoys with at least 90 feet of line shall be provided and readily available for emergency rescue operations. Distance between ring buoys shall not exceed 200 feet.

For all work which will be performed over or near water as defined in 29 CFR 1926.106(d) the Contractor shall have a skiff in the water at all times as required by regulation. The skiff must meet US Coast Guard requirements and be manned by a person holding a Masters license for the craft and be trained in water rescue.

B4. U.S. COAST GUARD REQUIREMENTS

1.0 GENERAL

1.0.1 Scope

Requirements set forth herein are in addition to and shall be considered as complementary to the balance of the Contract requirements.

For all operations to be performed in, on, or over the Lower New York Bay, East River, Harlem River, Broad Channel, Rockaway Inlet, or other adjacent waterways, as applicable to the Contract, the Contractor shall comply with all applicable government requirements and regulations pertaining to the Work. The securing of permits necessary for the performance of this Work shall be routed through the Engineer.

Notification and Request for Approval Requirements

At no time during the Work will the following activities be permitted without prior notification and specific approval of the USCG Sector New York Waterways Management Division for location and duration:

- Closing the waterways.
- Removing or restricting existing navigation lights and/or markings.
- Reducing or altering vertical or horizontal clearances.

All requests shall be routed through the Engineer a minimum of 30 days before the action will be required If, in the case of waterway closures, the scheduled Work cannot be completed within the approved closure period, notify the U.S. Coast Guard (USCG) immediately upon learning of the delay. With the approval of the USCG, the work shall continue on a 24-hour basis until the waterway is restored to normal operation. The USCG and the Engineer shall be immediately notified when normal operation is restored.

1.0.1.1 Port of New York / New Jersey Security Provisions

Security Zone / Exclusionary Area

- A twenty-five (25) yard (23 m) Security Zone / Exclusionary Area, has been established by the U.S. Coast Guard around all bridge piers in the New York / New Jersey area.

Advance Written Approval Requirements

- No construction workers, work barges or vessels of any type may enter these Security Zones without advance written approval from the U.S. Coast Guard Captain of the Port, NY District, through the Waterways Management Division, and the Vessel Traffic Service Activities New York (VTS).
- All requests made by the Contractor through the Engineer to enter into these Security Zones must be made in writing, not less than 30 days prior to the commencement of any work, to USCG Sector New York Waterways Management Division, in accordance with the forms attached to this specification, with a copy to the Engineer. Contractor shall comply with all Security Zone requirements of the U.S. Coast Guard, even if different than those set forth here, at no additional cost to the Department.

Initial Submittal and Information Requirements

- Submit a complete list of all construction personnel or persons that will enter into the Security Zones, including name, Social Security Number, Date of Birth, Contractor’s Business Name, Business Address, Point of Contact / Responsible Person in- Charge of Work Activities

(Construction Superintendent) and Telephone Numbers (Main Office, Field Office Numbers and Cell Phones).
- Submit Project and Work Description and include descriptions of work activities and work site in the Security Zone, together with work location(s), dates, times and Project Duration, Barge/Vessel/Boat Name(s) / Type(s) & Size(s).
- Submit a Bridge Branch Construction Approval Letter.
- Submit above items to the U.S. Coast Guard Waterways Oversight Branch (USCG/WOB), and call (718) 354-4193 or 4355 to make the required arrangements, not less than 30 days in advance of any work, with a copy to the Engineer.

Changes Subsequent to Approval by the USCG/WOB

- If any changes are made to the information provided and approved including, but not limited to, additional personnel hired or any other changes in the existing personnel roster, a revised written submission is required.
- Submit all information for approval, including all revisions to the required information, as identified above, to the U.S. Coast Guard Waterways Oversight Branch not less than ninety-six (96) hours / four (4) days in advance of the expected change, with a copy to the Engineer.

Daily Notification Requirements

- After the initial written approval for entry into the Security Zone has been received from the U.S. Coast Guard, (USCG) the Contractor is to first notify the U.S. Coast Guard / Vessel Traffic Service at (718) 354-4088 on a daily basis, while working within the Zone; and upon contacting the USCG, immediately report to the Engineer the context and outcome of all communications with the USCG.
- Daily notification shall include, but not limited to, the following times when entering or leaving the Security Zone during any part of a day:
  1. Prior to entering the Work Site at the start of each workday.
  2. Prior to leaving the Work Site at any time during the workday.
  3. Prior to returning to the Work Site at any time during the workday.

Upon securing the work site at the end of the workday.

- The Contractor shall notify the Engineer 24 hours in advance of any change in the location of the Contractor’s operations within a Security Zone.

2.0 REFERENCES

Part 26, Title 33, Code of Federal Regulations (33 CFR26) Vessel Bridge-to-Bridge, Radio Telegraphic Regulations.

Navigation Rules International – Inland, U.S. Government Printing Office Stock # 050-012-00376-9.

3.0 EXECUTION

3.0.1 Protection of Marine Traffic and Waterways

Conduct the Work in conformity with the orders of the Commander (OBR), First U.S. Coast Guard District. Battery Park Building, New York, NY 10004-5073 and/or the District Construction Manager, U.S. Army Corps of Construction Managers in charge of the locality so as not to obstruct or endanger navigation.

3.0.2 Plan Reviews

Four copies of the Contractor's plans, schedule and sequences of operations, and method of preventing any material from being discharged or falling from the construction area, approved by the Engineer, shall be transmitted to the U.S. Coast Guard by the Engineer. The Engineer will submit plans, schedules, methods and sequences of operations to the First U.S. Coast Guard District, Bridge Branch Commander (OBR) First U.S. Coast Guard District, Battery Park Building, New York, N.Y. 10004-5073, (212) 514-4338, for U.S. Coast Guard approval 30 days prior to any proposed work over the waterway. In addition, a sketch of the work area shall be submitted showing:

- The waterway.
- The bridge.
- The location of any restriction that will be placed in the waterway such as barges, anchors and anchor lines.
- The location, height above mean high water and a detailed description of any scaffolding or netting to be used.

The schedule should also include the daily hours of operation and indicate whether waterborne equipment will remain in the waterway at night. Daytime and twenty-four (24) hour emergency telephone numbers with personnel responsible for this work shall be forwarded to the USCG via the Engineer before commencement of Waterway-related construction. This information shall be updated immediately if any changes occur.

3.0.3 Modification to USCG Approved Plan

One copy of the plan and schedule of operation, and letter of approval by the U.S. Coast Guard, shall be retained by the Engineer. No deviation from the approved plan and schedule of operation may be made unless the modification has previously been submitted to and approved by the U.S. Coast Guard and the Engineer.

3.0.4 Hot Work

Positive means shall be taken to prevent sparks, molten metal and/or any hot work, debris, discharge of waste materials or construction material from entering the waterway or onto passing vessels. This includes sandblasting material, paint, wastewater, and any concrete or steelwork by-products. A safety section in the overall plan must be included that will achieve this purpose by utilizing fire resistive devices made of plywood and canvas suitably connected.

Where welding or burning is to take place, suitable flame-proof material shall be the uppermost protective containment material to arrest the fall of sparks or molten materials. All welding, burning, and slag removal shall cease upon approach of a vessel and not start again until the vessel has passed.

The Contractor's Supervisor shall be equipped with a complete communication system before commencement of any hot work, in accordance with information provided throughout this Section.

Hot work shall not commence unless communication has been established with the U.S. Coast Guard. An observer or observers shall be stationed so as to have unimpeded views of both upstream and downstream accesses to the waterway area thereby assuring that all workers can be alerted of a vessel's approach by appropriate means, such as an air horn.

3.0.5 Work Platforms

For work requiring outboard floats and/or for work on or under marine structures in the navigable waterway, deck, a fireproof canvas dodger shall be installed to prevent the fall of objects and debris into the water.

During night work, all around white lights or red lights to indicate safe passage around structures in the navigable waterway shall be mounted to indicate to mariners the locations of the work. All

structures lighting and day marks shall be submitted through the Engineer to the USCG for approval prior to commencement of work.

During daylight, warning signs for a 3-mile (4.8 km) range shall mark the locations of the work platforms. The signs shall face upstream and downstream so as to draw mariner's attention to the fact that critical work, affecting moving traffic, is occurring. A canvas dodger or netting shall be attached to the scaffold guardrail to prevent objects that bounce on the deck from ricocheting off the deck and into the waterway.

If permanent bridge or fender navigational lighting cannot be maintained operable or will be blocked, identical, temporary battery or electrically-operated lights shall be installed at the same locations. These temporary lights shall be visible for a distance of 2,000 yards (1.829 kilometers) on 90% of the nights of the year. Generally, a lamp of 100 candles will meet these requirements. The temporary lights shall be in place until the repairs have been completed or permanent navigational lighting has been reinstalled and determined to be operating satisfactorily. Locate and detail temporary lighting. If temporary lights are not installed in the same locations as the permanent lights, specific information regarding proposed locations compared to the permanent positions shall be provided to the Engineer for submission to and approval by the USCG.

3.0.6 Obstructions in Navigable Channel

During the progress of Work, should any materials, machinery, or equipment be lost, dumped, thrown overboard, or sunk, so as to obstruct, interfere with, or create a hazard to navigation, immediate notice shall be given to the U.S. Coast Guard and the object removed immediately. Until removal can be effected, the obstruction shall be properly marked in order to protect navigation.

Notice to the U.S. Coast Guard shall include a description and location of any such object and the action taken, or being taken, to protect navigation, and of action to remove the obstruction. Notice shall be given to the Captain of the Port– New York and New Jersey, at (718) 354-4119/4120 and U.S. Coast Guard Bridge Administration at (212) 668-7021/7165.

If, in the opinion of the Engineer, all obstructions in the channel resulting from the operations (through negligence, accident or otherwise) have not been removed, an inspection of the waterway bottom must be performed and remaining obstructions shall be removed, at no extra cost to the NYDDC.

After the completion of the work on or under the deck, the Contractor shall certify in writing to the Engineer that all equipment is accounted for and that all unused construction materials have been legally disposed.

3.0.7 Spills

Spillage of oil and/or hazardous substances is specifically prohibited by Section 311 of the Clean Water Pollution Control Act of 1971, as amended.

During the work, preventative measures to be taken include:

- Proper maintenance of construction equipment.
- Arrangement of fuel/hazardous substances handling areas so as to ensure that any spills are contained before reaching navigable waterways or their adjoining shoreline. In addition, the Engineer must be notified immediately.
- Instructions to personnel to legally dispose of oil and/or hazardous substances and not into drains, navigable waterways, or onto adjoining shorelines.

The USCG Captain of the Port and the Engineer shall be notified immediately at Commander, U.S. Coast Guard Activities New York, 212 U.S. Coast Guard Drive, Staten Island, NY 10305, (800-424-8802) or (718) 354-4119/4120 in the event of any spill.

A supply of an absorbent material shall be maintained at the work area(s) so that it may be rapidly deployed to soak up any possible spillage, pending U.S. Coast Guard arrival on the scene. The use of chemical dispersing agents and emulsifiers is not permitted without prior, specific USCG approval.

3.0.8 Floating Work Platforms

Floating work platforms equipment shall not interfere with operations in any federally maintained navigable channel. Floating equipment shall have a radiotelephone capable of operation from its main control in accordance with Part 26 Title 33, Code of Federal Regulations and shall be monitored during all periods the floating equipment is in operation.

Placement of construction equipment in the navigable channel shall be done so as not to reduce minimum horizontal clearance. Floating work equipment (barges, etc) must be moved out of the navigable channel during darkness, or after work hours. Work equipment remaining in the channel (if approved by USCG) during periods of darkness or reduced visibility must be lighted in accordance with Navigation Rules International – Inland.

Work barges remaining in the channel (if approved by the USCG) shall meet the following requirements:

- Must be lighted in accordance with Navigation Rules International-Inland.
- Shall be manned 24 hours a day 7 days per week.
- Shall have sanitary facilities and USCG approved safety equipment.
- Shall have a USCG approved motorized emergency tender boat with safety equipment.

The USCG must be notified, via the Engineer, at least three weeks in advance of the placement of equipment in the channel.

3.0.9 Dumping

Should any person throw construction materials into the waterway, they will be subject to prosecution under Federal and State laws.

3.0.10 Fleet Week

During “Fleet Week”, no reduction in vertical or horizontal clearances will be authorized; this includes work platforms, travelers, barges, tarps, etc.

3.0.11 Communication System

The Contractor’s Supervisor and all other applicable personnel involved shall be provided and equipped with a two-way communication system consisting of VHF-FM marine radio(s) capable of monitoring channels 13 and 16 during hours of operation, for the duration of the Work.

The Supervisor shall contact U.S. Coast Guard ActNy-VTS via marine radio, establish and maintain radio communications at all times, which shall include obtaining approval before commencement of any hot work, or any other work which may be considered hazardous to (or interfere with) marine traffic.

In the event of a radio failure, the Contractor shall provide a cellular phone(s) as a backup communication system, which shall be kept readily on hand, at all times, for use by the Contractor’s Supervisor and all other applicable personnel involved. The cellular phone(s) shall be capable of contacting the U.S. Coast Guard ActNy- VTS at (718) 354-4088.

The Contractor shall deliver to the Engineer a complete remote base station type VHF-FM marine radio system capable of monitoring, receiving, transmitting and amplifying all communications between and with the Contractor and/or the U.S. Coast Guard, as well as, other marine transmissions in the area, unless hand held units and related systems are deemed to be sufficient by the Engineer.

Test all communication systems at least 30 days prior to the need. Weekly test and regularly maintain all communication system equipment.

Provide sufficient spare equipment and parts to prevent any disruption in communications.

Provide additional communication system equipment as necessary to amplify the signal, as well as assist in maintaining clear and audible communications at all times.

U.S. Department of Homeland Security
United States Coast Guard

Commander
United States Coast Guard
Sector New York

212 Coast Guard Drive
Staten Island, NY 10305
Staff Symbol: (wwm)
Phone: (718) 354-4195
Fax: (718) 354-4190

Coast Guard Sector New York Request for Marine Activity Approval

Instructions: Type or print clearly and email to Jeff.M.Yunker@uscg.mil or fax to (718) 354-4190. **USCG notification, review and approval will generally take a MINIMUM of 5 business days. Authorization to proceed will not be given until five (5) days after Coast Guard approval is granted. This timeline also applies to any revisions to an approved project. Applicants must plan accordingly. Authorization is granted under the Ports and Waterways Safety Act (33 USC 1225(a)(2)(C). Violations of required safety measures may subject you to civil penalty proceedings in accordance with 33 CFR 1.07.**

Approval is required for all Activities: 1. Within any charted or Federal Channel, 2. Outside of the Pierhead Line on the East and Hudson Rivers, Upper New York Bay, and The Narrows, 3. Within the highlighted waters of the western Long Island Sound approach to NY Harbor (see attachment). Requests for Notice to Mariners outside of these work areas must be faxed to 617.223.8073 or emailed to LNM@uscg.mil by Tuesday for Thursday publication.

Pre-approval not required for: Diving Operations (outside of channel) or Side-scan, towed sonar, or other surveys, conducted as per the Inland Navigation Rules, within the VTS AOR. Just check in with VTS 15 minutes before beginning and upon completion each day at 718.354.4088. Surveys outside the VTS AOR do not need Coast Guard approval.

BRIDGE PROJECTS, INSPECTIONS, SURVEYS, ETC MUST BE APPROVED BY THE CG BRIDGE PROGRAM, CONTACT 212.668.7021 FOR GUIDANCE.

UNMANNED VESSELS WILL NOT BE AUTHORIZED OVERNIGHT IN FEDERAL CHANNELS.

Failure to properly notify the Coast Guard WILL result in project delay.

Company and Administrative Point of Contact:			
Address:			
Phone:		Fax:	
Project Location:			
Project Description:			
Start Date:	Finish Date:	Work Days: 7 Days	Work Hours:
Position of Equipment (detailed physical description):			
Vessels on Scene (Include Vessel name, description, length, beam, State Registration number):			
24-hr On-Scene Contact:			

B5. GREENHOUSE GAS EMISSIONS

The Contractor is encouraged to take steps to reduce the greenhouse gas emissions resulting from this Contract. To this end, the Contractor is strongly encouraged to take the following steps:

1. Use B20 biodiesel (ASTM D7467) in all non-road and marine equipment.
2. Maximize the use of recycled steel and aluminum in the permanent materials.

The Contractor is required to monitor the Contractor's performance on these steps and provide reports with supporting documentation showing the actual performance achieved.

B6. EMPLOYMENT OPPORTUNITIES

1. The Contractor's attention is drawn to the following contract requirements for providing employment opportunities:
    a. HireNYC. Requirements are in the Standard Construction Contract found in Volume 2.
    b. Section 3. Requirements are in the HUD-Pages found in Volume 3.
2. Additionally, the following requirements apply:
    a. Apprentices: The Contractor must request the maximum allowable ratio of apprentices.
    b. Sandy Recovery Hiring Plan: The Contractor is required to develop and implement a Sandy Recovery Hiring Plan for low-income and very low-income persons, Sandy-impacted residents, minorities, and women in accordance with the provisions set forth below.
    c. The following requirements are part of this Contract and will be passed on to all applicable Subcontractors:
        i. Contractor and Subcontractors are encouraged to employ 20 percent Sandy-impacted residents.
        ii. Contractor and all Subcontractors agree to register all non-trade job opportunities arising from the Work under this Contract with Sandy Recovery Workforce1, managed by the NYC Department of Small Business Services and comply with the provisions set forth below.
        iii. This section does not limit Contractor's or its Subcontractors' ability to assess the qualifications of prospective workers, and to make final hiring and retention decisions. No provision of this section shall be interpreted so as to require a Contractor or Subcontractor to employ a worker not qualified for the position in question, or to employ any particular worker.
3. Strategies and Methods
    a. The Sandy Recovery Hiring Plan shall demonstrate the Contractor's capability and plan for ensuring compliance with the hiring requirements.
    b. In an effort to provide pathways for hiring of persons impacted by Sandy, the Contractor is encouraged to work with local community-based organizations, pre-apprenticeship and apprenticeship programs, and voluntary groups engaged in rebuilding efforts.
    c. The Contractor will work with Workforce1 and the City on specific outreach events including Resource Fairs and Hire on the Spot events, connecting Sandy-impacted residents with job opportunities.
    d. The Sandy Recovery Hiring Plan should show plans to work with organizations to create a pathway and opportunities on these projects and a plan to show compliance with the hiring requirements.
4. Management and Compliance
    a. The Contractor must develop a Sandy Recovery Hiring Plan for approval by the Engineer.
    b. The Contractor must provide at least one part-time staff dedicated to tracking hiring daily at the job site and ensuring implementation of the requirements of the Plan. The Contractor must comply with monthly reporting requirements set forth by the City, which include, but are not limited to, data that the City is required to report under Local Law 140 of the City of New York and Section 3 of the Housing and Urban Development Act of 1968, as well as data collection related to Executive Order 11246.

5. Specific Requirements
    a. Job Posting Requirements: The Contractor and all subcontractors agree to inform Sandy Recovery Workforce1, managed by NYC Department of Small Business Services, of all job opportunities arising from this Contract. The Contractor must inform Sandy Recovery Workforce1 of any hiring need, and the requirements of the jobs to be filled, no less than three weeks prior to the intended first day of employment for each new position, unless otherwise approved by the City. Sandy Recovery Workforce1 will work with Contractor to develop a recruitment plan which will outline clear instructions as to when, where, and how interviews will take place. Sandy Recovery Workforce1 will screen applicants based on employer requirements and refer applicants whom it believes are qualified to the Contractor for interviews. The Contractor must interview referred applicants whom it believes are qualified, and must provide feedback on all interviewed candidates within two business days and report new hires to Sandy Recovery Workforce1 once confirmed.
    b. Sandy-impacted residents will be given first priority to register for opportunities with the rebuilding effort on-line and at Workforce1.
6. Workforce Recordkeeping Requirements: The Contractor must comply with monthly reporting requirements set forth by the City, which include, but are not limited to, data that the City is required to report under Local Law 140 of the City of New York and Section 3 of the Housing and Urban Development Act of 1968, as well as data collection related to Executive Order 11246. The Contractor must provide the Engineer with a Monthly Report of such data by the fifteenth of every month for the prior month using the paper and/ or electronic reporting format provided by the Engineer and must complete all applicable fields. If reporting particular information is impossible for the Contractor, the Contractor may apply for an exemption. Any application for an exemption must be made before the expiration of thirty (30) days after the commencement date of this Agreement and shall be in the form specified by the Engineer. Exemption may be granted upon a showing that the operation of this Section will constitute a hardship, within the sole discretion of the Commissioner. The content of this Monthly Report may change at any time as the City's reporting needs change.
7. Furthermore, the Contractor must complete weekly Certified Payroll reports using the WH-347 form, available from the U.S. Department of Labor, Wage and Hour Division, which may be submitted each month concurrent with the aforementioned Monthly Report.

B7. WORK RESTRICTIONS

The Contractor's attention is drawn to the following work restrictions:

1. NYC Ferry: Public access to the Red Hook/Atlantic Basin Landing NYC Ferry Terminal must be maintained at all times.

2. Valentinio Pier Park. Public access to the NYC Park must be maintained at all times

The Contractor is required to contact IKEA,1 Beard St, Brooklyn, NY 11231 regarding the following official activities that will impact roadway work within the project limits:

1. America's 250th Anniversary Celebration, planned for July 2026.

The Contractor must accommodate these activities at no additional cost, in accordance with Standard Highway Specifications Section 6.70.11.(I).

The Contractor to coordinate with and accommodate high traffic days, peak seasons, and any other private property owner requirements without affecting project schedule/cost."

B8. VALUE ENGINEERING CHANGE PROPOSAL (VECP)

A. Purpose and scope. The purpose of a Value Engineering Change Proposal (VECP) is to encourage the use of the Contractor's ingenuity and experience in arriving at alternative construction designs, methods, and procedures that result in a lower direct cost to accomplish a contract requirement. It is the intent of this provision to share with the Contractor any substantial direct cost savings which may be generated as a result of a VECP offered by the Contractor and approved by the Engineer. A VECP is a Contractor-initiated change request. If approved, the changes and payments will be authorized through the change order process. Before a VECP can be implemented, it must pass through three approval processes: conceptual approval, formal approval, and change order approval. To expedite the review process, the Contractor has the option of jointly submitting the conceptual VECP and the formal VECP for simultaneous review. If the VECP receives formal approval, as part of the change order process the Contractor may request that the Engineer consider granting advanced authorization of extra work.

The VECP should produce direct cost savings to the City and the public without, in the sole judgment of the Engineer, impairing essential functions and characteristics of the facility including but not limited to service life, economy of operation, ease of maintenance, desired appearance, and safety. The Contractor, when developing a VECP, shall address the designer's objectives, environmental permit requirements and regulations, commitments made to the public to mitigate the impact of construction, and other such concerns.

The "direct cost savings" is the difference of the "construction savings" generated by implementing the VECP minus reasonable "design costs" associated with the VECP. The "construction savings" is the difference between what it would cost to complete all the contract work without implementing the VECP and the cost to complete all the contract work if the VECP is implemented. This includes any changes to quantities or unit prices across the entire contract if affected by the VECP. If the estimated cost to complete all the contract work without implementing the VECP differs from the contract bid amount for the work, supporting documentation to explain the variance shall be provided. Reimbursable "design costs" are specific to engineering changes (examples: design changes, plan sheet revisions, and quantity estimating). Expenditures toward proposal preparation (examples: scheduling, documentation, cost analysis, material research, etc.) are not reimbursable.

Indirect cost savings (time, user delay, railroad force account costs, inspection costs, etc.), although considered when reviewing the merits of the VECP, are not reimbursed. A VECP may alter the progress schedule and milestone dates, which in turn could affect time-related contract provisions.

Proposals that reduce the time to complete the contract, and only result in indirect cost savings, may be accepted based on the mutual benefit derived. These proposals will be evaluated in accordance with sub-provision F. Time Savings, below.

B. Submittal of Conceptual VECP. A conceptual proposal is required for all VECP. It should outline the general technical concepts associated with the VECP and the estimated direct cost savings which may result. Upon review by the Engineer, one of the following actions will be taken:

- Conceptual approval and a request for the Contractor to submit a formal VECP.
- Request for additional information.
- Rejection of the VECP.

The Contractor shall submit an original and three copies of the conceptual VECP to the Engineer along with any additional information requested by the Engineer. The conceptual VECP should contain sufficient information for concept review and evaluation, including the following as a minimum:

1. Conceptual VECP Summary. A summary of the VECP identified as "Conceptual VECP" which includes:

a. Short title (description) of the VECP (10 or less words).

b. Contract information (Contract ID number, contract description, contractor).

c. Original total contract bid price.

d. Estimated contract cost. This may be different from the original total contract bid price due to addition or alteration of work (i.e., the estimated cost to complete the work if the VECP is not implemented). The Engineer must concur with the estimated contract cost.

e. Estimated contract cost if the VECP is implemented (excludes VECP design cost and any VECP construction savings reimbursement).

f. Estimated VECP construction savings (Item d. minus Item e.).

g. Estimated VECP design cost (Not all VECP will have design cost).

h. Estimated direct cost savings due to the VECP (Item f. minus Item g.).

i. Fifty percent of the estimated direct cost savings (This should equal the overall savings to the City).

j. Estimated total adjusted contract cost if VECP is implemented (includes VECP savings and design cost reimbursements).

k. The type of VECP (either "Cost Savings" or "Time Savings Only").

l. Date by which the authorization of extra work (change order) must be granted.

m. Identification of any new or existing contract pay items requiring agreed prices.

n. Identification of any materials with long lead times (to order, fabricate, deliver, etc.) that may require purchase authorization from the Engineer prior to formal approval/disapproval of the VECP, or may delay the implementation of the VECP. Identify any date by which authorization to order these materials must be received without affecting the progress schedule.

o. A basic description of the VECP and associated benefits and impacts (progress schedule, environmental, maintenance & protection of traffic, quality, etc.).

2. Conceptual Plans. Conceptual plan drawings.

3. Design Criteria. If the VECP proposes design changes, supporting technical design criteria shall be provided.

4. Schedules.

    a. The most recently approved baseline progress schedule.

    b. The most recently approved construction progress schedule update.

    c. A draft, proposed, revised progress schedule illustrating the impacts of the VECP. The schedule shall identify: (1) the time required to develop a formal VECP; (2) the time required to order, fabricate, and deliver materials with long lead times; (3) the time required to obtain any environmental permits or other required approvals; (4) any anticipated progress schedule changes (contract completion date, milestone dates, task durations, etc.); (5) the latest date by which authorization of the VECP extra work must be granted without affecting the schedule.

    The draft progress schedule should provide a sufficient level of detail upon which the reasonableness of the VECP can be determined.

Should the Engineer find that insufficient time is available for review and processing, it may reject the VECP solely on such basis. If the Engineer fails to respond to the VECP by the date specified, the Contractor will consider the VECP rejected and will have no basis for a dispute against the City as a result thereof. The Engineer may accept a VECP that requires a contract time extension if sufficient cost savings are anticipated.

5. Estimate of costs. The conceptual VECP estimate of costs should include sufficient information to determine the reasonableness of the VECP. If the proposal requires the ordering of materials, the Contractor needs to provide documentation from the suppliers to justify the cost of the materials.
6. Previous Use or Testing. A description of any previous use or testing of the VECP on another City contract or elsewhere, the conditions and results therewith. The Contractor shall submit the technical aspects of the VECP in sufficient detail so the Engineer can determine the suitability of the VECP from an engineering perspective. If the technology is new, test information shall be provided to the Engineer's satisfaction. If a similar VECP was previously submitted on another City contract, indicate the date, contract number, and the action taken by the City.

C. Submittal of Formal VECP. Upon notification by the Engineer that the conceptual VECP is approved and a formal VECP is necessary, the Contractor will submit to the Engineer an original and three copies of the following materials and information for each formal VECP along with any additional information requested by the Engineer:

1. Formal VECP Summary. A summary of the VECP, identified as "Formal VECP", which follows the conceptual VECP summary format and information requirements (Information and estimates may have changed since the conceptual VECP).
2. Complete Plans and Specifications. Complete plans and specifications, which meet City standards, showing the proposed changes relative to the original contract features and requirements. The City requires a Professional Engineer's stamp and signature on any significant engineering changes.
3. Field Change Sheets. Field change sheets and/or shop drawings. If the VECP results in a field change, and those items affected require the submission of shop drawings, the shop drawings will not be accepted unless accompanied by corresponding field change sheets.
    1. Documents shall be developed in compliance with City requirements. The City requires a Professional Engineer's stamp and signature on any significant engineering changes.
4. Schedules. The same information requirements as for the conceptual VECP apply, except that a formal, proposed, revised progress schedule is required.
5. Cost Analysis. A complete cost analysis indicating quantity changes, unit price changes, and new contract pay items. As a minimum it shall include:
    a. An itemized comparison of estimated costs to complete all the contract work with implementing the VECP and without implementing the VECP.
    b. Proposed unit prices for any new contract pay items introduced by the VECP and appropriate documentation for review under the Agreed Price process.
    c. Proposed unit prices for any existing contract pay items for which agreed prices are sought due to a significant change in character of work (quantity or complexity). Appropriate documentation for review under the Agreed Price process is required.
    d. The cost of any items with long lead times (e.g., materials ordered) required after conceptual approval and before final approval shall be identified.

7. Differences. Full descriptions of the difference between the existing contract requirements and the proposed changes, and the comparative advantages and disadvantages of each, including considerations of service life, economy of operation, ease of maintenance, traffic flow, safety, desired appearance, progress schedule, and any increase/reduction of environmental impacts.
8. Technical Presentation. The Contractor may be required to conduct a technical presentation as part of the review process.
9. Cost Documentation. All formal VECP costs submitted shall be supported by documentation as required by Article 26 of the Standard Construction Contract.

The Engineer will not formally approve any VECP until all required VECP documentation has been submitted and is acceptable to the Engineer.

A formal VECP may be submitted concurrently with the conceptual VECP, however, the Contractor assumes any costs associated with the formal VECP at its own risk. Reimbursable costs will be considered only if the conceptual VECP is approved. Clearly identify whether a VECP is being submitted for conceptual approval, formal approval, or both.

Once a formal VECP has been approved, the VECP will then be submitted as a change order and processed accordingly. The Contractor is responsible for submitting all appropriate information to the Engineer in a timely manner.

D. Conditions. The Contractor shall not base any bid prices on the anticipated approval of a VECP and should recognize that any VECP may be rejected. The following terms and conditions apply to VECP:

1. A VECP will only be considered after the contract is awarded.
2. A VECP applies only to the contract for which it was submitted. One VECP shall not be submitted for multiple contracts. Approval or disapproval of a VECP on one contract does not guarantee approval or disapproval on another contract.
3. The VECP becomes the property of the City and will contain no restrictions imposed by the Contractor on its use or disclosure. The City will have the right to use, duplicate, and disclose in whole or in part any data necessary for the utilization of the VECP. The City retains the right to utilize any accepted or rejected VECP or part thereof on any other project without any obligation to the Contractor.
4. Approval of the conceptual VECP in no way obligates the Engineer to approve the formal VECP. The Contractor will have no claim against the City as a result of the rejection of any such conceptual or formal VECP except as otherwise provided in Sub-Provision E.4, below.
5. When the Engineer is in the process of making design and specification revisions and a Contractor submits a VECP with similar revisions, the Engineer will reject the VECP and proceed without any obligation to the Contractor.
6. A VECP will be considered only if reasonable, cost-effective options are not provided in the contract documents.
7. The Engineer will be the sole judge as to whether a VECP qualifies for consideration and evaluation. It may reject any VECP that requires excessive time or costs for design review, evaluation, and/or investigations. The Engineer will be the sole judge in determining if the proposed VECP will result in a sufficient amount of direct or indirect cost savings to offset the City's effort to review the VECP.

8. A VECP shall be consistent with DDC's design policies and basic design criteria, provide the same service life or more, facilitate economy of operations, ease of maintenance, and achieve the desired appearance and safety.
9. A VECP will not be allowed that changes the type and/or thickness of the pavement structure and material, or solely substitutes one material for another. Examples of materials that may fall into this inappropriate substitution situation are drainage pipes, coatings, pavement markings, etc. The simple elimination of work does not necessarily constitute a VECP, however, a VECP which introduces a simple material substitution, or elimination of work, may be considered if it is accompanied by a design change or change in the construction method. A simple material substitution which introduces a new material to the DDC may be also considered.
10. The VECP will not be experimental in nature, but will have been proven to the Engineer's satisfaction under similar or acceptable conditions on another City contract or at another location acceptable to the Engineer.
11. If the Engineer requires any additional information to evaluate the VECP, this information shall be provided in a timely manner. Unless otherwise mutually agreed upon, failure to do so will result in the rejection of the VECP. An incomplete or a poor quality VECP which hinders the Engineer's review may also result in the rejection of the VECP.
12. The Contractor shall encourage submissions of VECP from an approved subcontractor, provided that reimbursement is made by the City to the Contractor and that the terms of payment to the Subcontractor are satisfactorily negotiated and accepted before the VECP is submitted to the Engineer. Subcontractors may not submit a VECP except through the Contractor.
13. A VECP approved by the Engineer is considered to be a revision to the contract documents and progress schedule. Consequently, if unsatisfactory results are being achieved or adjustments are necessary during implementation of a VECP, the rejection of work, removal of work, addition of work, or revision of work shall be evaluated in accordance with the Contract requirements.
14. All contract pay items and quantities referenced in the VECP construction savings analysis shall be Engineer-approved contract provisions. Any extra work, inclusion of an omission of work, or other field changes shall be authorized prior to use in VECP savings calculations.
15. No work related to a VECP will be performed under allowance items. Agreed prices must be reached for any contract pay items related to the VECP before the VECP is approved. If the Contractor is deemed to have taken reasonable diligence in determining the work involved but if during the construction of VECP work a significant change in the character of work occurs, the Engineer may consider new agreed prices.
16. The Contractor will receive written notification from the Engineer when the VECP is approved. Material orders placed prior to VECP approval shall be submitted at the Contractor's risk.
17. Once a VECP has been approved, the VECP will then be submitted as a change order and processed accordingly. The Contractor is responsible for submitting all appropriate information to the Engineer in a timely manner.

E. Payment. If the VECP is accepted by the Engineer, the changes and payments will be authorized through a change order. Reimbursement to the Contractor will be made as follows:

1. A VECP introduces two individual payments, one for VECP construction savings, and one for VECP design cost. The contract pay item changes along with the VECP construction savings and design cost reimbursements to the Contractor should be submitted in one change order.

2. The City will pay to the Contractor 50% of the VECP construction savings. The VECP construction savings is the difference between the actual contract costs with the VECP implemented and a detailed estimate of what it would have cost to complete the contract work without implementing the VECP, based on final construction. If final construction savings differs from the amount estimated in the formal VECP, an adjustment may be made and included in another change order. The VECP construction savings reimbursement to the Contractor will not be paid until the VECP work has been completed (progress payments on the completed VECP work are allowed). The Engineer may withhold all or a portion of the payment for the Contractor's share of the VECP construction savings until the final contract accounting. In the event that at final contract accountings the implementation of VECP actually results in no construction savings, then the Contractor will receive no VECP construction savings payment.

   The Engineer is the sole judge in deciding the construction savings due to the implementation of the VECP. The Engineer will withhold VECP construction savings reimbursement until the Contractor supplies all required VECP documents.

3. If a design cost is submitted for a VECP, the City will pay to the Contractor a 50% share of the Contractor's reasonable cost for design incurred after conceptual VECP approval. If the design cost submitted for the Engineer’s approval is deemed unreasonable, only 50% of the design cost deemed to be reasonable will be reimbursed. Not every VECP will have a design cost associated with it. The Engineer is the sole judge in determining the reasonableness of the design cost. Reimbursable design costs are for engineering changes. Preparation and submission of the proposal (e.g., savings analysis, progress scheduling, etc.) are not considered design costs and are not reimbursable. Reimbursable VECP design may be performed by a consultant or directly by the Contractor. The Contractor shall not be charged for, nor can the Contractor claim, any VECP design performed by the City.

   The design cost shall be submitted as a lump sum item with supporting documentation. The supporting documentation shall include itemized direct salary costs (rates & hours), overhead (only for consultant design), and direct non-salary costs. Payment for direct salary costs and overhead will be limited to the current City reimbursement policies for Consultant Engineering agreements.

   For consultant design, reasonable overhead on the direct technical salaries will be reimbursed. For Contractor design, overhead is not reimbursable for direct salary costs.

   Overhead shall not be charged for direct non-salary costs whether incurred by the Contractor or by a consultant. Payment for direct non-salary costs will be made at actual cost paid. Although for certain direct non-salary costs (lodging, meals, mileage) the rates must meet the requirements of Comptroller’s Directive 6.

   The subtotal of direct salary costs, overhead, and direct non-salary costs shall be considered a "professional service fee" and reimbursed in accordance with §109-05B.3. Service Charges. A maximum 5% for the Contractor's contract supervision and overhead is allowed, in addition to any overhead submitted for consultant direct salary costs. All design costs are subject to audit.

   Additional supporting documentation (receipts, time sheets, etc.) shall be supplied in a timely manner if requested by the Engineer.

   In the case of a formal VECP being jointly submitted with the conceptual VECP, the City will pay to the Contractor a 50% share of the Contractor's reasonable cost for design specific to the development of the formal VECP (nothing toward the conceptual VECP) if the conceptual VECP is approved.

4. In the event of the Engineer's conceptual approval of a direct cost savings VECP, and the Contractor is directed to proceed with the VECP implementation steps and final approval is not reached, regardless of whether due to the actions of the City or the Contractor, 50% of the total reasonable design costs will still be reimbursed to the Contractor. If "advance" written approval was given to proceed with the work, procure materials, and begin fabrication; and rejection occurs, the work and fabrication costs will be reimbursed in accordance with the Standard Construction Contract. Only those materials not incorporated and unique to the contract (i.e., not restockable) will be evaluated for payment.
5. There will be no reimbursement for any costs incurred for the conceptual VECP or prior preparations.
6. If more than one VECP is approved for a contract, construction savings and design costs shall be tracked separately for each VECP.
7. When multiple submittals of information for a VECP are required to satisfy the information needs of the conceptual or formal VECP procedure, and contract timing will be negatively impacted before review and subsequent approval can be given by the Engineer, then the VECP may be rejected. In such cases, there will be no claim by the Contractor for design costs or loss of anticipated savings and/or profits.
8. VECP payments only involve direct savings or costs. Indirect savings or costs (time, user delay, contract delay, etc.) are not included in VECP payment calculations. The calculations of VECP payments are independent from the payments or penalties for contract time related issues.

   If a VECP revises the progress schedule, the contract milestones upon which time related provisions are based may be affected. Time savings resulting from a VECP may be realized in a time related contract provision. Conversely, if a VECP negatively affects a progress schedule, time related contract provisions may be negatively affected.

F. Time Savings. The Engineer will consider proposals that result in time savings and at the same time may increase the cost of the contract. The Engineer will be the sole judge as to whether the benefits of completing the contract or a phase before the scheduled completion date or milestone offsets any increase in cost. These submittals, while not constituting a Value Engineering Change Proposal, will be reviewed using the VECP approval process. In addition to information required in Sub-Provision B, “Submittal of Conceptual VECP” above and Sub-Provision C, “Submittal of Formal VECP” above, the Contractor shall provide the Engineer the anticipated amount of time to be saved and sufficient information to enable the Engineer to calculate and evaluate the cost benefit of the savings in user delay. Time savings generated by the VECP may be claimed under an existing time related contract provision. If the time savings VECP increases the cost of the contract, the additional cost shall not be subtracted from any time related contract provision payments.

G. Significant Changes. Once a VECP is approved, any future significant change is no longer based on the original contract bid conditions (quantity, nature or kind of a material involved), but rather on the conditions as adjusted by the VECP (adjusted quantities, anticipated site conditions and materials, etc.).

All significant changes shall be agreed upon prior to formal VECP approval. If after formal VECP approval, an unforeseen change in the VECP work causes a significant change in the character of work, quantities and prices may be adjusted and the VECP savings shall be adjusted accordingly.

B9. REFERENCE DOCUMENTS

The following Reference documents are available in the PASSPort RFx and are attached to the Contract:

(1) Red Hook Coastal Resiliency Project: City Environmental Quality Review Environmental Assessment Statement, prepared by NV5
(2) Storm Water Pollution Prevention Plan (SWPPP).

B10. ENVISION

The DDC is committed to the principles of sustainable development and will submit this project for evaluation as per the Institute for Sustainable Infrastructure's ENVISION Sustainable Infrastructure Framework. As such, the Contractor is required to provide support and assistance to DDC in the required documentation for applicable contractor related activities for the ENVISION verification process. DDC will be responsible for the Envision submittal process, including any fees or required Sustainability professionals.

The ENVISION: Sustainable Infrastructure Framework Guidance Manual is available at: https://sustainableinfrastructure.org.

B11. PAYMENT FOR MAINTENANCE AND PROTECTION OF TRAFFIC

This contract has Maintenance and Protection of Traffic (MPT) payments on a Lump Sum basis, paid under Item 6.70. MPT includes all elements necessary to establish a work zone, provide traffic control and manage the flow and safety of traveling public to provide accessibility and safety for construction personnel and equipment, and to ensure safety and convenience of abutting residents and surrounding properties. Item 6.70 includes providing MPT to all users regardless of mode of transportation (including without limitation pedestrians, cyclists, and motorists), and throughout the entire project area (including without limitation park areas, highways, sidewalks, and streets). All MPT work must conform to the standards indicated on the contract plans, specifications and as directed by the Engineer.

B12. SPECIAL INSPECTION AND DEPARTMENT OF BUILDINGS.

Portions of work under this contract are subject to the provisions of the New York City Construction Codes, as noted on the Contract Drawings.

Work subject to the provisions of the New York City Construction Codes shall meet the requirements of the New York City Construction Codes and the following:

1. Inspection of selected materials, equipment, installation, fabrication, erection or placement of components and connections made during the progress of the Work to ensure compliance with the Contract Documents and provisions of the New York City Construction Codes, shall be made by a Special Inspector. The City of New York will retain the services of the Special Inspector and bear the costs for the performance of Special Inspections in compliance with NYC Construction Codes requirements or as additionally may be called for in the project specifications. The Special Inspector shall be an entity compliant with the requirements of the New York City Construction Codes.

2. The contractor shall be responsible for, and bear all costs associated with the filing and securing of approvals, if any, as required in the specifications.

   This work may include but is not limited to:

   a. Engaging the services of a New York City licensed Concrete Testing Lab for the review and approval of concrete design mix, testing, signatures and professional seals, etc., compliant with NYC Department of Buildings requirements, for each concrete design mix.

   b. Engaging a professional engineer or registered architect to act as the applicant, and prepare or supervise the preparation of all construction documents and specifications submitted under the required applications.

   Where a Form TR3 is required, concrete mix design approval by the QA & Construction Safety Bureau per Section 3.05.4 of the NYCDOT Standard Highway Specifications is not required.

3. The Contractor shall notify the relevant Special Inspector in writing at least 72 hours before the commencement of any work requiring Special Inspection. The contractor shall be responsible for and bear related costs to assure that all construction or work shall remain accessible and exposed for inspection purposes until the required inspection is completed.

4. Inspections and tests performed under “Special Inspection” shall not relieve the Contractor of the responsibility to comply with the Contract Documents, and that there is no warranty given to the Contractor by the City of New York in connection with such inspection and tests or certifications made under “Special Inspections”.

5. The contractor must coordinate with the Engineer to provide access and schedule the work for inspection by the Special Inspector.

B13. PHASING.

When the Contractor develops the construction schedule per Section 1.06.35 of the Standard Highway Specifications, the following phasing requirements must be incorporated:

1) The project must be executed in two phases:
   a. South of the intersection of Conover St and Van Dyke St (Beard Street Alignment)
   b. North of the intersection of Conover St and Van Dyke St (Atlantic Basin Alignment)

2) The Beard Street alignment must be completed prior to beginning construction on the Atlantic Basin Alignment, to prevent conflicts with other projects in the area.



B14. EASEMENTS.

The City is obtaining easements for the following properties:

1. 44 Ferris Street
2. 219 Sullivan Street
3. 100 Ferris Street
4. 258 Conover Street
5. 298 Conover Street
6. 20 Beard Street
7. 460 Van Brunt Street
8. 133 Beard Street
9. 280 Richards Street
10. 21 Beard Street

NEW YORK CITY DOT

Department of Transportation

Ydanis Rodriguez, Commissioner

OCMC TRAFFIC STIPULATIONS

October 30, 2023

OCMC FILE NO: BNEC-22-795
CONTRACT NO: SANDRDHK
PROJECT: RED HOOK COASTAL RESILIENCY (RHCR) ATLANTIC BASIN AND BEARD STREET

LOCATION(S): ATLANTIC AVENUE AND BEARD STRET -VARIOUS LOCATION, BROOKLYN, NY

PERMISSION IS HEREBY GRANTED TO THE **NEW YORK CITY DEPARTMENT OF DESIGN AND CONSTRUCTION (DDC)** AND ITS DULY AUTHORIZED AGENT, TO ENTER UPON AND RESTRICT THE FLOW OF TRAFFIC AT THE LOCATION(S) BELOW FOR THE PURPOSE OF CARRYING OUT THE ABOVE NOTED PROJECT, SUBJECT TO THE STIPULATIONS, AS NOTED BELOW:

I. SPECIAL STIPULATIONS

A. **EMBARGOES** – A CONSTRUCTION EMBARGO WILL APPLY TO THOSE LOCATIONS BELOW WHICH FALL WITHIN THE **HOLIDAY EMBARGO** OR ANY OTHER SPECIAL EVENT EMBARGOES SUCH AS **N/A** PUBLISHED BY THE BUREAU OF PERMIT MANAGEMENT AND CONSTRUCTION CONTROL.

B. **BIKE LANES** – FOR ANY WORK IN OR AFFECTING A BIKE LANE, THE PERMITTEE MUST COMPLY WITH THE **NEW GUIDELINES FOR THE MAINTENANCE & PROTECTION OF TRAFFIC PLAN FOR CYCLING**, WHICH ARE AVAILABLE AT:

https://www1.nyc.gov/html/dot/downloads/pdf/bike-mpt-guidelines.pdf

C. **BIKE SHARE STATIONS:** THE PERMITTEE SHALL NOT REMOVE, RELOCATE, DAMAGE OR DISRUPT THE OPERATION OF EXISTING BIKE SHARE STATIONS WITHOUT FIRST CONTACTING NYC BIKE SHARE AT 855-245-3311 FOR THEIR REQUIREMENTS PRIOR TO COMMENCING WORK.

D. **CITYBENCH:** THE PERMITTEE SHALL NOT REMOVE, RELOCATE, DAMAGE OR DISRUPT AN EXISTING CITYBENCH WITHOUT FIRST CONTACTING NYC DOT AT 212-839-6569, OR VIA EMAIL AT CITYBENCH@DOT.NYC.GOV PRIOR TO COMMENCING WORK.

E. **PROTECTION OF NYC DEP GREEN INFRASTRUCTURE:** THE PERMITTEE SHALL TAKE PRECAUTION OF NYC DEP GREEN INFRASTRUCTURE IN THE RIGHT-OF-WAY. PERMITTEE MUST CONTACT NYC DEP 48 BUSINESS HOURS BEFORE CONSTRUCTION STARTS AT **GIUTILITY@DEP.NYC.GOV** FOR FURTHER INSTRUCTION ON HOW TO PROCEED. ALSO, THE PERMITTEE MUST FOLLOW NYC DEPS GREEN INFRASTRUCTURE PROTECTION REQUIREMENTS AT **HTTPS://WWW1.NYC.GOV/SITE/DEP/WATER/GREEN-INFRASTRUCTURE.PAGE**. PERMITTEE IS RESPONSIBLE FOR RESTORATION, REPLACEMENT, OR RECONSTRUCTION OF DAMAGED DEP GREEN INFRASTRUCTURE ASSETS IMPACTED BY THE PERMITTEE AS DIRECTED BY DEP.

F. **PROTECTION OF NYC DEP PERMEABLE PAVEMENT:** THE PERMITTEE SHALL TAKE PRECAUTION OF NYC DEP PERMEABLE PAVEMENT IN THE RIGHT-OF-WAY. PERMITTEE MUST CONTACT NYC DEP 48 BUSINESS HOURS BEFORE CONSTRUCTION STARTS AT **GIUTILITY@DEP.NYC.GOV** FOR FURTHER INSTRUCTION ON HOW TO PROCEED. ALSO, THE PERMITTEE MUST FOLLOW NYC DEP GREEN INFRASTRUCTURE PROTECTION REQUIREMENTS AVAILABLE AT **HTTPS://WWW1.NYC.GOV/SITE/DEP/WATER/GREEN-INFRASTRUCTURE.PAGE**. PERMITTEE IS RESPONSIBLE FOR RESTORATION, REPLACEMENT OR RECONSTRUCTION OF DAMAGED DEP GREEN INFRASTRUCTURE ASSETS IMPACTED BY THE PERMITTEE AS DIRECTED BY DEP.

G. **BUS STOPS** – THE PERMITTEE SHALL PROVIDE WRITTEN NOTICE TO NYC DOT OCMC AND NEW YORK CITY TRANSIT (NYCT) A MINIMUM OF FIVE (5) WEEKS IN ADVANCE FOR LANE/STREET CLOSURES THAT AFFECT BUS ROUTES/BUS STOPS.

H. **STREETLIGHTS / TRAFFIC SIGNALS:** THE PERMITTEE SHALL NOT REMOVE OR RELOCATE EXISTING STREET LIGHTS OR TRAFFIC SIGNALS WITHOUT FIRST OBTAINING APPROVAL FROM NYCDOT STREET LIGHTING / TRAFFIC SIGNALS UNIT.

I. **TRAFFIC CAMERAS, DETECTION/COMMUNICATION EQUIPMENT:** IF AT ANY TIME DURING THE APPROVED WORK, THE PERMITTEE ENCOUNTERS TRAFFIC SURVEILLANCE CAMERAS, DETECTION EQUIPMENT OR ANY TYPE OF COMMUNICATION EQUIPMENT (WIRELESS OR HARD-WIRED) ON ANY NYC DOT FACILITY, THAT IS NOT INCLUDED ON THE DESIGN/BUILD DRAWINGS, THE PERMITTEE SHALL IMMEDIATELY NOTIFY NYC DOT TRAFFIC MANAGEMENT BY PHONE AT 718-433-3390 OR 718-433-3340 AND VIA EMAIL AT TMC@DOT.NYC.GOV AND AWAIT DIRECTION PRIOR TO CONTINUING WORK.

J. **METERS** – THE PERMITTEE SHALL NOT REMOVE OR RELOCATE PARKING METERS WITHOUT FIRST OBTAINING APPROVAL FROM NYCDOT PARKING METER DIVISION AT 718 – 894 – 8651.

K. **TEST PITS** – THE BELOW TRAFFIC STIPULATIONS DO NOT APPLY TO TEST PIT WORK RELATED TO THIS CONTRACT. WORK HOURS AND OTHER REQUIREMENTS FOR TEST PIT OPERATIONS MAY DIFFER FROM THE STIPULATIONS IDENTIFIED BELOW. THE PERMITTEE SHALL BE REQUIRED TO OBTAIN SEPARATE PERMITS RELATED TO TEST PITS.

L. **TEMPORARY PARKING REGULATIONS/PAVEMENT MARKINGS** – THE PERMITTEE IS REQUIRED TO INSTALL, MAINTAIN AND REMOVE ALL NECESSARY TEMPORARY PARKING AND REGULATORY SIGNS AND PAVEMENT MARKINGS, AND RESTORE THEIR ORIGINAL CONDITION PER NYC DOT STANDARDS, PRIOR TO EXPIRATION OF THEIR PERMITS. THE PERMITTEE OR AGENCY PERFORMING PUBLIC OUTREACH SHALL POST AND MAINTAIN ADVISORY SIGNS A MINIMUM OF 48 HOURS PRIOR TO CHANGING EXISTING PARKING REGULATION SIGNS TO APPROVED TEMPORARY CONSTRUCTION PARKING REGULATION SIGNS. THE ADVISORY SIGNS SHOULD BE POSTED ON ALL POLES AND DRIVE RAILS ON THE SEGMENT AFFECTED, INDICATING THE DATE OF THE CHANGE, THE NEW REGULATIONS AND A TELEPHONE NUMBER TO OBTAIN MORE INFORMATION.

I. SPECIAL STIPULATIONS (CONTINUED)OCTOBER

NYC Department of Transportation
Bureau of Permit Management and Construction Control
55 Water Street - 7th Floor, New York, NY 10041
T: 212.839.9637 F: 212.839.8970
www.nyc.gov/dot

M. **ACCESS TO ABUTTING PROPERTIES** – THE PERMITTEE SHALL COORDINATE ALL ACTIVITIES WITH ABUTTING PROPERTY OWNERS TO ENSURE ACCESS IS PROVIDED TO/FROM ENTRANCES/DRIVEWAYS AT ALL TIMES.

N. **AUTHORIZED PARKING** – PRIOR TO PERFORMING WORK WHICH IMPACTS AUTHORIZED PARKING, THE PERMITTEE SHALL SUBMIT IN WRITING, AND COPY OCMC-STREETS, A REQUEST TO OCCUPY SPACE CURRENTLY USED BY AUTHORIZED VEHICLES. APPROVAL MUST BE RECEIVED FROM AUTHORIZED PARKING PRIOR TO OCCUPYING THESE AREAS.

O. **NOTIFICATION** – THE PERMITTEE MUST AT LEAST TWO (2) WORKING DAYS BEFORE THE START OF CONSTRUCTION NOTIFY THE NYC FIRE DEPARTMENT, NYC POLICE DEPARTMENT, NYCEMS, LOCAL COMMUNITY BOARD, BOROUGH PRESIDENT'S OFFICE-CHIEF ENGINEER, NYCDOT OCMC OFFICE, AND ALL ABUTTING PROPERTY OWNERS.

P. **CONSTRUCTION INFORMATIONAL SIGNS** – THIS PROJECT REQUIRES A CONSTRUCTION PROJECT INFORMATIONAL SIGN (CPIS) IN ACCORDANCE WITH NYCDOT HIGHWAY RULE SECTION 2-02 (4) AND (5). CRITERIA AND A PROTOTYPE FOR THIS SIGN MAY BE FOUND ON THE NYCDOT WEBSITE AT:

HTTP://WWW.NYC.GOV/HTML/DOT/DOWNLOADS/PDF/DOT_CPIS_DIRECTIONS.PDF

Q. **ENHANCED MITIGATIONS**

- **NYPD TRAFFIC AGENTS** ARE REQUIRED FOR THIS PROJECT: **N/A POSTS PLUS RELIEF N/A**
- **CLOSED-CIRCUIT TELEVISION (CCTV) CAMERAS** MUST BE PLACED CLOSE TO AND WITHIN THE WORKSITE PROJECT LIMITS TO CAPTURE PEDESTRIAN AND VEHICULAR TRAFFIC FLOW. **A TOTAL OF N/A CCTV SHALL BE INSTALLED AT THE FOLLOWING LOCATIONS: N/A** INSTALLATION OF THESE CAMERAS MUST BE COORDINATED WITH THE NYCDOT TRAFFIC MANAGEMENT CENTER.
- **ENHANCED MITIGATIONS FOR PEDESTRIAN FLOW**, INCLUDING METAL FENCING, SHALL BE PROVIDED TO ENSURE PEDESTRIANS STAY WITHIN THEIR DESIGNATED PATH/ROUTE. PEDESTRIAN MANAGERS SHALL BE PROVIDED TO ASSIST WITH PEDESTRIANS AT THE DESIGNATED CROSSWALK AREAS.
- **VARIABLE MESSAGE SIGNS (VMS)** SHALL BE PROVIDED FOR THIS PROJECT. **A TOTAL OF N/A VMS SHALL BE PLACED FOR THIS CONTRACT.** THE LOCATIONS AND MESSAGES SHALL BE RECOMMENDED BY NYCDDC AND THEIR CONTRACTOR A MINIMUM OF TWO (2) WEEKS PRIOR TO WORK COMMENCING, FOR OCMC REVIEW AND APPROVAL.
- **"NO STANDING ANYTIME-TEMPORARY CONSTRUCTION" SIGNS** AND TEMPORARY PAVEMENT MARKINGS SHALL BE INSTALLED AND MAINTAINED AS WARRANTED BY THE MAINTENANCE AND PROTECTION OF TRAFFIC (MPT) REQUIRED TO FACILITATE TRAFFIC MOVEMENTS THROUGH THE WORK ZONE. ALL TEMPORARY SIGNS AND PAVEMENT MARKINGS SHALL BE REMOVED UPON COMPLETION OF THE PROJECT.
- **COMMUNITY OUTREACH** SHALL BE PROVIDED FOR THE DURATION OF THE PROJECT.

II. MAINTENANCE AND PROTECTION OF TRAFFIC

A. BEARD STREET BETWEEN CONOVER STREET AND VAN BRUNT STREET

B. CONOVER STREET BETWEEN BEARD STREET BETWEEN REED STREET.

C. REED STREET BETWEEN CONOVER STREET AND VAN BRUNT STREET.

D. FERRIS STREET BETWEEN VAN DYKE STREET AND COFFERY STREET.

1. Work hours shall be as follows: MONDAY TO FRIDAY 9AM TO 4PM
   SATURDAY 8 AM TO 4PM
2. Use stipulation 021 during working hours and stipulation 023 after working hours.
3. Maintain 5 feet on sidewalk during and after working hours.
4. Coordinate with open street restaurants and do not place materials, equipment, or containers in driveways.
5. Must coordinate with Cobblestone Unit for protocol on storage of cobblestone.
6. Contractor may store materials and equipment on site within the work zone.

E. INTERSECTION OF CONOVER STREET AND BEARD STREET.

F. INTERSECTION OF CONOVER STREET AND REED STREET.

G. INTERSECTION OF VAN DYKE STREET AND FERRIS STREET.

H. INTERSECTION OF VAN DYKE STREET AND CONOVER STREET.

1. Work hours shall be as follows: MONDAY TO FRIDAY 9AM TO 4PM
   SATURDAY 8 AM TO 4PM
2. Maintain 1–11-foot lane on 1-way street and 2–11-foot lanes on 2-way streets. Maintain 5 feet on sidewalk during and after working hours.
3. Must coordinate with Cobblestone Unit for protocol on storage of cobblestone.
4. Work crossing roadway cannot extend more than 1–11-foot lane at a time, contractor must backfill or plate prior to proceeding.

5. Full width of roadway shall be open to traffic when site is unattended.

I. INTERSECTION OF SUMMIT STREET AND IMLAY STREET (CORNER)

J. INTERSECTION OF SULLIVAN STREET AND FERRIS STREET.

K. INTERSECTION OF CONOVER STREET AND KING STREET.

L. INTERSECTION OF IMLAY STREET AND VERONA STREET.

M. INTERSECTION OF FERRIS STREET AND SULLIVAN STREET.

N. INTERSECTION OF FERRIS STREET AND WOLCOTT STREET.

1. Work hours shall be as follows: MONDAY TO FRIDAY 9 AM TO 4PM
   SATURDAY 8AM TO 4PM
2. Maintain 1–11-foot lane on 1-way Street and maintain 5 feet on sidewalk around the work zone.
3. Must coordinate with NYC-DOT Bike Lane Unit Hayes Lord (hlord@dot.nyc.gov for work that impact bike lanes
4. Work crossing roadway cannot extend more than11 feet at a time, contractor must backfill or plate prior to proceeding.
5. Full width of roadway opened to traffic when site is unattended.

O.

P. INTERSECTION OF BEARD STREET AND CONOVER STREET.

Q. INTERSECTION OF BEARD STREET AND VAN BRUNT STREET.

R. INTERSECTION OF COURT STREET AND LORRAINE STREET.

S. INTERSECTION REED STREET AND CONOVER STREET.

T. INTERSECTION OF FERRIS STREET AND COFFEY STREET.

1. Work hours shall be as follows: MONDAY TO FRIDAY 9AM TO 4PM
   SATURDAY 8AM TO 4PM
2. Maintain 1–11-foot lane on 1-way Street and 2–11-foot lane on 2-way Street.
3. Work crossing roadway cannot extend more than 11 feet at a time, contractor must backfill or plate prior to proceeding.
4. Must coordinate with Cobblestone Unit for all roadways with Cobblestone.
5. Full width of roadway shall be opened to traffic when site is unattended.

U. INTERSECTION OF REED STREET AND CONOVER STREET.

V. INTERSECTION OF BEARD STREET AND OTSEGO STREET.

W. INTERSECTION OF BEARD STREET AND DWIGHT STREET.

X. INTERSECTION OF BEARD STREET AND RICHARDS STREET.

Y. INTERSECTION OF HALLECK STREET AND OTSEGO STREET.

Z. INTERSECTION OF BEARD STREET AND HALLECK STREET.

AA. INTERSECTION OF COURT STREET AND CREAMER STREET.

BB. INTERSECTION OF KING STREET AND FERRIS STREET.

CC. INTERSECTION OF CONOVER STREET AND PIONEER STREET.

DD. INTERSECTION OF IMLAY STREET AND SUMMIT STREET.

EE. INTERSECTION OF VAN BRUNT STREET AND SUMMIT STREET.

FF. INTERSECTION OF IMLAY STREET AND BROWNE STREET.

GG. INTERSECTION OF IMLAY STREET AND COMMERCE STREET.

HH. INTERSECTION OF BROOKLYN WHARF AND PIONEER STREET.

II. INTERSECTION OF IMLAY STREET AND POINEER STREET.

JJ. INTERSECTION OF CONOVER STREET AND KING STREET.

KK. INTERSECTION OF FERRIS STREET AND KING STREET.

LL. INTERSECTION OF REED STREET AND VAN BRUNT STREET.

MM. INTERSECTION OF BEARD STREET AND DWIGHT STREET.

NN. INTERSECTION OF BREAD STREET AND OTSEGO STREET.

OO. INTERSECTION OF COLOUMBIA STREET AND HALLECK STREET.

PP. INTERSECTION OF FERRIS STREET AND DIKEMAN STREET.

QQ. INTERSECTION OF SMITH STREET AND HALLECK STREET.

RR. INTERSECTION OF SMITH STREET AND CREAMER STREET.

SS. INTERSECTION SMITH STREET AND BAY STREET.

TT. INTERSECTION OF CREAMER STREET AND COURT STREET.

UU. INTERSECTION OF COURT STREET AND HALLECK STREET.

1. Work hours shall be as follows: MONDAY TO FRIDAY 9AM TO 4PM
   SATURDAY 8AM TO 4PM
2. Maintain 1–11-foot lane on 1-way Street and 2–11-foot lanes on 2-way Street.
3. Maintain 5 feet on sidewalk for pedestrians during and after working hours.

3. Work crossing roadway cannot exceed more than 11 feet at a time, contractor must backfill or plate prior to proceeding.

4. Full width of roadway shall be opened to traffic when site is unattended.

VV. INTERSECTION OF COURT STREET AND BAY STREET.

WW. INTERSECTION OF COURT STREET AND BRYANT STREET.

XX.

1. Work hours shall be as follows: MONDAY TO FRIDAY 9AM TO 4PM
   SATURDAY 8AM TO 4PM
2. Maintain 2–11-foot lanes for traffic one lane in each direction.

3. Work crossing roadway cannot exceed more than 11 feet at a time, contractor must backfill or plate prior to proceeding.

4. Full width of roadway shall be opened to traffic when site is unattended.

YY. INTERSECTION OF COLUMBIA STREET AND SIGOURNEY STREET.

1. Work hours shall be as follows: MONDAY TO FRIDAY 9AM TO 2PM WHEN SCHOOL IS IN SESSION
   MONDAYS TO FRIDAYS 9AM TO 4PM WHEN SCHOOL IS NOT IN SESSION
   SATURDAY 8AM TO 4PM
2. Maintain 2–11-foot lanes on 2-way Streets and 1–11-foot lane on 1-way Streets.
3. Work crossing roadway cannot exceed more than 11 feet at a time, contractor must backfill or plate prior to proceeding.
4. Must coordinate with school prior to mobilizing.

4. Full width of roadway shall be opened to traffic when site is unattended.

II. MAINTENANCE AND PROTECTION OF TRAFFIC (CONTINUED)

ZZ. BEARD STREET BETWEEN DWIGHT STREET AND OTSEGO STREET.

AAA. HALLECK STREET BETWEEN BEARD STREET/OTSEGO STREET AND COLUMBIA STREET.

BBB. COLUMBIA STREET BETWEEN HALLECK STREET AND SIGOURNEY STREET

CCC. COURT STREET BETWEEN BRYANT STREET AND CREAMER STREET.

1. Work hours shall be as follows: MONDAYS TO FRIDAYS 7AM TO 6PM
   SATURDAY 8AM TO 4PM
2. Maintain 2–11-foot lanes for traffic one lane in each direction.
3. Must coordinate with NYC-DOT Bike Lane Unit Hayes Lord (hlord@dot.nyc.gov) for work that impact bike lanes.
4. Maintain 5 feet on sidewalk for pedestrians during and after working hours.
5. No material or equipment storage at this location after working hours.

6. Full width of roadway shall be opened to traffic when site is unattended.

DDD. BEARD STREET BETWEEN DWIGHT STREET AND RICHARDS STREET.

EEE. FERRIS STREET BETWEEN SULLIVAN STREET AND KING STREET.

FFF. IMLAY STREET BETWEEN VERONA STREET AND PIONEER STREET.

GGG. PIONEER STREET BETWEEN IMLAY STREET AND CONOVER STREET.

HHH. CLINTON WHARF BETWEEN CONOVER STREET AND FERRIS STREET.

III. FERRIS STREET BETWEEN COFFEY STREET AND DIKEMAN STREET.

JJJ. FERRIS STREET BETWEEN DIKEMAN STREET AND WOLCOTT STREET.

KKK. BRYANT STREET BETWEEN CLINTON STREET AND COURT STREET.

1. Work hours shall be as follows: MONDAYS TO FRIDAY 7AM TO 6PM
   SATURDAYS 8AM TO 4PM
2. Maintain 5 feet on sidewalk for pedestrians during and after working hours.
3. Maintain 1–11-foot lane on 1-way Street and 2–11-foot lanes on 2-way Streets.
4. Coordinate with all ongoing construction prior to mobilizing
5. Full width of roadway open to traffic with site is unattended, no storage of materials or equipment on this block.

LLL. COURT STREET BETWEEN BAY STREET AND CREAMER STREET.

MMM. COURT STREET BETWEEN CREAMER STREET AND LORRAINE STREET.

1. Work hours shall be as follows: MONDAYS TO FRIDAYS 7AM TO 6PM
   SATURDAY 8AM TO 4PM
2. Maintain 5 feet on sidewalk for pedestrians during and after working hours.
3. Maintain 2–11-foot lanes for traffic one lane in each directions during and after working hours.
4. Coordinate with all ongoing construction prior to mobilizing.
5. Full width of roadway opened to traffic when site is unattended.
6. Contractor may store materials or equipment in work zone with no impact to driveways and businesses.

II.

A. CONOVER STREET BETWEEN KING STREET AND PIONEER STREET

B. SUMMIT STREET BETWEEN VAN BRUNT STREET AND IMLAY STREET

C. CONOVER STREET BETWEEN PIONEER STREET AND CLINTON WHARF.

1. Work hours shall be as follows: MONDAYS TO FRIDAYS 7AM TO 6PM
   SATURDAY 8AM TO 4PM
2. Maintain 5 feet on sidewalk for pedestrians during and after working hours.
3. Maintain 1–11-foot lane for traffic during and after working hours. Must coordinate with NYC-DOT Bike Lane Unit Hayes Lord (hlord@nyc.dot.gov) prior to mobilizing.
4. No storage of materials or equipment at this location.
5. Full width of roadway opened to traffic when site is unattended.

D. IMLAY STREET BETWEEN SUMMIT STREET AND BROWNE STREET

E. SMITH STREET BETWEEN HALLECK STREET AND BAY STREET

F. SMITH STREET BETWE BAY STREET AND CREAMER STREET.

1. Work hours shall be as follows: MONDAYS TO FRIDAYS 7AM TO 6PM.
   SATURDAYS 8AM TO 4PM
2. Maintain 5 feet on sidewalk for pedestrian during and after working hours.
3. Maintain 1–11-foot lane for traffic during and after working hours. Must coordinate with NYC-DOT Bike Lane Unit Hayes Lord (hlord@dot.nyc.gov) prior to mobilizing.
4. Contractor may store materials and equipment on the East curb with no impact to driveways or trucking loading zone.
   Must coordinate with businesses impact to project.

G. FERRIS STREET BETWEEN SULLIVAN STREET AND WOLCOTT STREET

1. Work hours shall be as follows: MONDAYS TO FRIDAYS 7AM TO 6PM
   FRIDAYS 8AM TO 4PM
2. Maintain 5 fee on sidewalk for pedestrians during and after working hours.
3. Maintain 1–11-foot lane for traffic during and after working hours.
4. No storage of materials or equipment at this location.
5. Full width of roadway shall be opened to traffic when site is unattended.

H. VAN BRUNT STREET BETWEEN REED STREET AND BEARD STREET.

1. Work hours shall be as follows: MONDAYS TO FRIDAYS 9AM TO 4PM
   SATURDAY 8AM TO 4PM
2. Maintain 5 feet on sidewalk for pedestrians during and after working hours.
3. Maintain 1–11-foot lane for 2-way traffic during working hours and 2–11-foot lane for traffic after working hours.
4. Must coordinate with NYC-DOT Bike Lane Unit Hayes Lord (hlord@nyc.dot.gov) and businesses impact by work prior to mobilizing.
5. No storage of materials or equipment at this location.
6. Full width of roadway opened to traffic when site is unattended.

I. BEARD STREET BETWEEN VAN BRUNT STREET AND RICHARDS STREET.

1. Work hours shall be as follows: MONDAY TO FRIDAY 9AM TO 4PM
   SATURDAY 8 AM TO 4PM
2. Maintain 1–11-foot lane on 1-way street and 2–11-foot lanes on 2-way streets.
3. Maintain 5 feet on sidewalk during and after working hours.
4. Must coordinate with Cobblestone Unit for protocol on storage of cobblestone.
5. Must coordinate with NYC-MTA buses prior to mobilizing.
6. Contractor permitted to store materials and equipment in work zone with no impact to businesses and driveways.

J. VAN DYKE STREET BETWEEN FERRIS STREET AND CONOVER STREET.

1. Work hours shall be as follows: MONDAY TO FRIDAY 7AM TO 6PM
   SATURDAY 8 AM TO 4PM
2. Maintain 1–11-foot lane on 1-way street and 2–11-foot lanes on 2-way streets.
3. Maintain 5 feet on sidewalk during and after working hours.
4. Must coordinate with Cobblestone Unit for protocol on storage of cobblestone.
5. Contractor permitted to store materials and equipment in work zone with no impact to businesses, Open Street Restaurants, and driveways.

III. GENERAL NOTES

A. **THIS IS NOT A PERMIT.** THIS STIPULATION SHEET MUST BE SUBMITTED WITH ALL REQUESTS FOR PERMITS PERTAINING TO THE ABOVE CONTRACT AND PRESENT AT THE WORK SITE ALONG WITH ALL ACTIVE CONSTRUCTION PERMITS WHEN THE APPROVED WORK IS BEING PERFORMED.

B. THE PERMITTEE MUST COMPLY WITH ALL CONSTRUCTION EMBARGOS ISSUED BY THE NYCDOT INCLUDING THE HOLIDAY EMBARGO.

C. THE PERMITTEE SHALL COMPLY WITH ALL REQUIREMENTS OF THE NYCDOT SPECIAL EVENTS UNIT AS IDENTIFIED BELOW:

1. STREET FAIRS / FESTIVALS

- ALL EXCAVATIONS MUST BE PLATED WITH SKID RESISTANT PLATES.
- PLATES MUST BE RECESSED AND FLUSH WITH PAVEMENT.
- ALL PAVEMENT DEFECTS MUST BE CORRECTED WITHIN OR ADJACENT TO THE WORK ZONE.
- THE CONTRACTOR IS RESPONSIBLE FOR ANY DEFECTS WITHIN THE IMMEDIATE VICINITY IF NYCDOT STREET & ARTERIAL MAINTENANCE CANNOT MAKE REPAIRS DUE TO PROJECT INTERFERENCE (AS DETERMINED BY NYCDOT).
- ALL EQUIPMENT, TRAILERS AND MATERIAL STORAGE MUST BE REMOVED.

2. RUNNING / WALKING / BIKING EVENTS

- ALL EXCAVATIONS MUST BE BACKFILLED AND PAVED OR PLATES MUST BE RECESSED AND PAVED OVER FLUSH WITH PAVEMENT.
- ALL PAVEMENT DEFECTS MUST BE CORRECTED WITHIN OR ADJACENT TO THE WORK ZONE.
- THE CONTRACTOR IS RESPONSIBLE FOR ANY DEFECTS WITHIN THE IMMEDIATE VICINITY IF NYCDOT STREET & ARTERIAL MAINTENANCE CANNOT MAKE REPAIRS DUE TO PROJECT INTERFERENCE (AS DETERMINED BY NYCDOT).
- ALL EQUIPMENT, TRAILERS AND MATERIAL STORAGE MUST BE REMOVED.

III. GENERAL NOTES (CONTINUED)

3. PARADES

- ALL EXCAVATIONS MUST BE BACKFILLED AND PAVED OR PLATES MUST BE RECESSED AND PAVED OVER FLUSH WITH PAVEMENT.
- FORMATION AND DISPERSAL AREA PLATES MUST BE RECESSED AND FLUSH WITH PAVEMENT (PLATES MUST BE SKID RESISTANT).
- ALL PAVEMENT DEFECTS MUST BE CORRECTED WITHIN OR ADJACENT TO THE WORK ZONE.
- THE CONTRACTOR IS RESPONSIBLE FOR ANY DEFECTS WITHIN THE IMMEDIATE VICINITY IF NYCDOT STREET & ARTERIAL MAINTENANCE CANNOT MAKE REPAIRS DUE TO PROJECT INTERFERENCE (AS DETERMINED BY NYCDOT).
- ALL EQUIPMENT, TRAILERS AND MATERIAL STORAGE MUST BE REMOVED.

4. MAYORAL EVENTS

- ALL EXCAVATIONS MUST BE BACKFILLED AND PAVED OR PLATES MUST BE RECESSED AND PAVED OVER FLUSH WITH PAVEMENT.
- ALL PAVEMENT DEFECTS MUST BE CORRECTED WITHIN OR ADJACENT TO THE WORK ZONE.
- THE CONTRACTOR IS RESPONSIBLE FOR ANY DEFECTS WITHIN THE IMMEDIATE VICINITY IF NYCDOT STREET & ARTERIAL MAINTENANCE CANNOT MAKE REPAIRS DUE TO PROJECT INTERFERENCE (AS DETERMINED BY NYCDOT).
- ALL EQUIPMENT, TRAILERS AND MATERIAL STORAGE MUST BE REMOVED.

D. ALL RELOCATION WORK BY THE UTILITIES SUCH AS; CON EDISON, TELEPHONE, GAS AND CABLE COMPANIES SHALL PRECEDE THE CONTRACTORS' START OF WORK ON ALL AFFECTED ROADWAYS IN THE IMPACTED CONTRACT AREA.

E. THE CONTRACTOR IS ADVISED THAT OTHER CONTRACTORS MAY BE WORKING IN THE GENERAL AREA DURING THE TERM OF THIS STIPULATION. IN WHICH EVENT, THE CONTRACTOR MAY REQUIRE MODIFICATIONS BY THE OCMC-STREETS.

F. THE PERMITTEE IS NOT AUTHORIZED TO ENTER, OCCUPY OR USE ANY PUBLICLY-OWNED OR PRIVATELY OWNED, NON-PAVED, LANDSCAPE OR NON-LANDSCAPED LOCATION WITHOUT SPECIFIC WRITTEN PERMISSION. WHEN THE LOCATION IS WITHIN THE RIGHT-OF-WAY OF A LIMITED-ACCESS ARTERIAL HIGHWAY, **WRITTEN** APPROVAL FROM THE NYCDOT OCMC-HIGHWAYS IS REQUIRED. WHEN THE LOCATION IS WITHIN THE RIGHT-OF-WAY OF A PUBLIC STREET OR PUBLIC PARK, **WRITTEN** APPROVAL FROM THE NEW YORK CITY DEPARTMENT OF TRANSPORTATION OR NEW YORK CITY DEPARTMENT OF PARKS AND RECREATION IS REQUIRED. WHEN THE LOCATION IS WITHIN THE RIGHT-OF-WAY OF ANY OTHER JURISDICTION SUCH AS PRIVATE PROPERTY, STATE, FEDERAL ETC., IT IS THE PERMITTEE'S RESPONSIBILITY TO DETERMINE THE PROPERTY OWNER AND OBTAIN THE WRITTEN APPROVAL.

G. THE PERMITTEE SHALL ADHERE TO THE NYCDOT BUREAU OF BRIDGES' SPECIAL PROVISIONS FOR LANDSCAPE PROTECTION, MAINTENANCE AND RESTORATION, ITEMS 1.18.15 THROUGH 1.18.19, WHENEVER AND WHEREVER ANY OF THE PERMITTEE'S ACTIVITIES OCCUR WITHIN A LIMITED ACCESS ARTERIAL HIGHWAY RIGHT - OF - WAY.

H. NO DEVIATION OR DEPARTURE FROM THESE STIPULATIONS WILL BE PERMITTED WITHOUT THE PRIOR WRITTEN APPROVAL FROM THE OCMC-STREETS. REQUEST FOR SUCH MODIFICATIONS SHALL BE SUBMITTED TO THE OFFICE OF THE OCMC-STREETS, NEW YORK CITY DEPARTMENT OF TRANSPORTATION, A MINIMUM OF TWENTY (20) DAYS IN ADVANCE FOR CONSIDERATION.

I. FOR ANY CONSTRUCTION ACTIVITY RESULTING IN THE FULL CLOSURE OF A ROADWAY FOR MORE THAN 180 CONSECUTIVE CALENDAR DAYS, THE CONTRACTOR MUST PRODUCE AND SUBMIT A COMMUNITY REASSESSMENT, IMPACT AND AMELIORATION (CRIA) STATEMENT TO NYCDOT PLANNING AND OBTAIN THEIR APPROVAL BEFORE APPLYING FOR PERMITS, IN COMPLIANCE WITH THE PROVISIONS OF **LOCAL LAW 24 STREET CLOSURE LAW.**

J. FOR THIS PROJECT THE CONTRACTOR SHALL FURNISH, INSTALL AND MAINTAIN ALL NECESSARY ADVANCE WARNING AND DETOUR SIGNS, TEMPORARY CONTROL DEVICES, BARRICADES, LIGHTS AND FLASHING ARROW BOARDS IN ACCORDANCE WITH THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES," THE TYPICAL SCHEMES INCLUDED IN THIS SPECIFICATION; AND AS ORDERED BY THE ENGINEER-IN-CHARGE AND THE OCMC-STREETS.

K. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IDENTIFYING HIS CONSTRUCTION SIGNAGE. THE IDENTIFICATION SHALL INCLUDE THE CONTRACTOR'S NAME, SPONSORING AGENCY NAME AND THE CONTRACT NUMBER. THE IDENTIFICATION SHALL BE PLACED ON THE BACK OF THE SIGN. THE LETTERING SHALL BE THREE (3) INCHES HIGH.

L. THE OCMC-STREETS RESERVES THE RIGHT TO VOID OR MODIFY THESE STIPULATIONS SHOULD CONSTRUCTION FAIL TO COMMENCE WITHIN TWO (2) YEARS OF THE SIGNED DATE OF THESE STIPULATIONS.

DUANE BARRA
EXECUTIVE DIRECTOR
OCMC

JILLIAN GBIDI
DIRECTOR
OCMC-STREETS

SW - PAGES

SEWER AND WATER MAIN REVISIONS TO SPECIFICATIONS

NOTICE

The Standard Sewer And Water Main Specifications of the Department of Environmental Protection, Sewer Design Standards of the Department of Environmental Protection, Water Main Standard Drawings of the Department of Environmental Protection, and Specifications For Trunk Main Work of the Department of Environmental Protection must be included as part of the contract documents. These said specifications and standard drawings are hereby revised under the following section headings:

A. NOTICE TO BIDDERS
B. REVISIONS TO THE STANDARD SEWER AND WATER MAIN SPECIFICATIONS
C. REVISIONS TO THE SPECIFICATIONS FOR TRUNK MAIN WORK

(NO TEXT ON THIS PAGE)

A. NOTICE TO BIDDERS

The Contractor is hereby notified that Lead Service Line Replacement (LSLR) is added to the contract. Prior to the start of any water main work, the Contractor must perform lead service line investigation and survey and prepare LSLR identification report of all water service connections encountered within the project limits, all of which is to be reported to the Engineer. Additional information is also available on the DEP website: nyc.gov/leadpipe.

The Contractor must perform this work in compliance with SECTION 64.14 LEAD SERVICE LINE REPLACEMENT which is included herein SW Pages under Section B.

The Contractor is advised that the cost of Lead Service Line Replacement work, as per the specifications and as ordered by the Engineer, including investigation and survey, identification report, all materials, equipment and labor necessary to complete the work will be deemed included and paid under the bid items 64.14A, 64.14 AL, 64.14AM, 64.14B, 64.14BL, 64.14BM, 64.14V, 4.02 AG, 4.13 AAS, 4.13BAS, 4.20, and 6.27 A.

B. REVISIONS TO THE STANDARD SEWER AND WATER MAIN SPECIFICATIONS

(1) **Refer** to **Subsection 10.15 - Notice To Utility Companies, Etc., To Remove Structures Occupying Place Of Sewers, Water Mains Or Appurtenances**, Page 19:
Add the following to **Subsection 10.15**:

The concerned utility companies are listed in the utility packages herein Volume 3 of 3

(2) **Refer** to **Subsection 10.21 - Contractor To Notify City Departments**, Page 21:
Add the following to **Subsection 10.21**:

(1) N.Y.C. D.E.P., BUREAU OF WATER AND SEWERS OPERATIONS

The Contractor must notify Mr. Peter Gordon, P.E. Linear Capital Program Management Division at the Department of Environmental Protection, 59-17 Junction Boulevard, 3rd Floor Low Rise, Corona, NY, 11368 at (718) 595-4347, at least thirty (30) days prior to the start of construction.

(2) NEW YORK CITY FIRE DEPARTMENT

The Contractor must notify the Bureau of Plant Operations - Engineering Unit at least thirty (30) days prior to the start of construction by contacting Mr. Ed Durkin at (718) 281-3933.

(3) N.Y.C. DEPARTMENT OF TRANSPORTATION

The Contractor will notify Mr. Hasib Amini / Akmal Mikhail – Traffic Signal/Street Lighting Operations, 34-02 Queens Blvd., Long Island City, N.Y. 11101 at (212) 839-3386 / (212) 839-3368, at least seventy-two (72) hours prior to the start of construction.

(4) N.Y.C. DEPARTMENT OF PARKS AND RECREATION

The Contractor must notify the Parks Department at least seventy-two (72) hours prior to the start of construction by contacting Mr. Daniel Grulich at (718) 760-6927.

(5) N.Y.C. TRANSIT AUTHORITY

(a) The contractor is advised that bus routes as well as bus stops, within the scope of this project, may be affected during construction operations. The Contractor will notify the Transit Authority at least two (2) weeks prior to the start of construction, in order to make the necessary arrangements.

Arrangements will be made through:

Hillary Cardoza Cato
Director, MTA-NYCT & MTA Bus, Bus Service Planning
New York City Transit
Broadway, Room A17.03,
New York, N.Y. 10004
Telephone No. (646) 252-5643 hillary.cardoza-cato@nyct.com

(3) **Refer** to **Subsection 10.24 – Damaged Water Service Pipes To Be Repaired By A Licensed Plumber**, Page 22:
Add the following to **Subsection 10.24**:

If the damaged or cut water service pipe is lead, galvanized steel, or galvanized iron, the service pipe must not be partially replaced, but fully replaced from the main to the house control valve. If the service pipe was damaged, cut, or otherwise interrupted due to the Contractor's actions or means & methods (including selection of shoring systems), the water service pipe will be replaced at the Contractor's own cost.

(4) **Refer** to **Subsection 10.30 - Contractor To Provide For Traffic**, Page 24:
Add the following to **Subsection 10.30**:

(1) Traffic Stipulations:

The Contractor will refer to Traffic Stipulations identified in the maintenance of traffic requirements under Highway Contract No. SANDRDHK.

(5) **Refer** to **Subsection 40.02.15 - Disposal Of Water From Trenches**, Page 184:
Add the following to **Subsection 40.02.15**:

(A) The Department of Design and Construction has **not** filed application for Dewatering Permit with the New York State Department of Conservation (NYSDEC), under the Environmental Conservation Law (ECL), Title 15 of Article 15, for a Temporary Well Point System Permit. However, it is anticipated that the criteria for rate of pumping specified here before in this section will be exceeded in areas of construction; the Contractor shall be responsible for applying and obtaining the necessary dewatering permit prior to the dewatering of trenches within the scope of this project.

As part of the permit application the Contractor will be required to comply with all the requirements of **Section 40.16** herein.

Copies of all materials submitted to NYSDEC must be sent to the New York City Department of Design and Construction (NYCDDC), Infrastructure/Design.

The following minimum requirements set forth by the New York Department of Environmental Conservation shall be complied with prior to the start of work in areas of construction requiring dewatering permit:

(1) An analysis must be made of water samples taken. The results are to be submitted to the Regional Permit Administrator. An analysis shall be made for BOD, salinity, oil, and grease. The samples shall be analyzed by a laboratory certified by the New York State Health Department and the results are to be submitted directed to the New York State Department of Environmental Conservation by the laboratory.

(2) Prior to setting any wells, wellpoints or header pipes, the Contractor must submit to the NYSDEC a layout of the complete dewatering system including the location of the discharge point. When permitted by the NYSDEC, discharge of groundwater on the beach areas shall be done in such a manner as to eliminate any erosion or siltation and will require the installation of splash blocks and/or settling basins.

The Contractor is advised that all work required in obtaining a permit, must be submitted to, and approved by the NYSDEC prior to the commencement of any work in areas of construction requiring dewatering permit. No payment for any item of work will be made, and no shop drawing shall be

approved for the areas of construction until such time that a written approval is obtained from the NYSDEC.

(B) The Contractor is advised that all work shall be governed by the provisions and requirements of the obtained permit, and their said provisions and requirements shall be made a part of the contract and the Contractor will be responsible for strict adherence thereto.

The cost of all work required for applying, complying and obtaining required dewatering permits including the cost for any required updating of permits shall be deemed included in the prices bid for all item of this contract. No additional or separate payment will be made for any work required in order to comply with these requirements.

(6) **Refer** to Page 219:
Add the following new **Section 40.16**:

SECTION 40.16 - DEWATERING PERMITS

40.16.1 DESCRIPTION

Under this contract, and at locations where groundwater will be present in the trenches and excavations, the Contractor is required to install, maintain and operate a temporary dewatering system of sufficient size and capacity to control ground and surface water flow into the excavation and to allow all work to be accomplished in the "dry condition".

The Contractor will be required to obtain the following permits in order to operate a temporary dewatering system.

(A) A Dewatering/Discharge Permit from the New York City Department of Environmental Protection (NYCDEP);

(B) A Long Island Well Permit from the New York State Department of Environmental Conservation (NYSDEC), under the Environmental Conservation Law (ECL), Title 15 of Article 15, implemented by 6NYCRR Part 601 - Water Supply and Part 602 - Long Island Well. This permit is required only in the Boroughs of Brooklyn and Queens to withdraw water using a well point or deep well system where the total capacity of such well or wells is in excess of 45-gallons per minute (or 64,800-gallons per day); and,

(C) An Industrial State Pollutant Discharge Elimination System (SPDES) or a Non-Jurisdictional Determination Letter in compliance with Title 8 and 7 of Article 17 of the Environmental Conservation Law of New York State, respectively.

The Contractor is advised that the provisions and requirements of the aforementioned permits shall govern all work, and the said provisions and requirements are hereby made a part of the sewer contract and the Contractor will be responsible for strict adherence thereto.

No dewatering work shall commence until the above-mentioned Permits have been obtained for this project.

The Contractor is advised that in order to comply with all the permits requirements, the Contractor will be required to submit maps, test data, etc. prior to the start of work. In order to expedite the processing of the permit and its requirements, the Contractor will be required to obtain the services of an independent Environmental Scientist as herein described below in **Subsection 40.16.2** to perform this work and act as liaison with NYSDEC and NYCDEP.

40.16.2 QUALIFICATIONS

The Environmental Scientist utilized to perform the work required under this section must have adequate experience in work of this nature (obtaining Long Island Well Permit/Dewatering Permit) and must have previous experience in working with the NYSDEC and the NYCDEP, designing equivalent dewatering systems, and have successfully obtained the type of permits required under this contract. Prior to the start of work, the Contractor will be required to submit the name and resume of the Environmental Scientist for approval.

40.16.3 NYSDEC DEWATERING PERMITS

The dewatering system shall be designed by the Environmental Scientist using accepted and professional methods of design and engineering consistent with the best modern practices.

The material to be submitted shall include, but not be limited to the following:

(1) Site Plan - Scaled, showing construction activity (e.g. excavation, pathway of the pipe, new outfalls, etc.) locations of well points, header pipes and pumps, and all staging and storage areas.

Also included herein shall be a layout of the complete dewatering system including the location of the discharge point. When permitted by the NYSDEC, discharge of groundwater on beach areas shall be done in such a manner as to prevent any erosion or siltation and will require the design and installation of splash blocks and/or settling basins.

(2) Dewatering System Specifications:

(a) Number of Well Points
(b) Diameter of Well Points
(c) Spacing of Well Points
(d) Length to Screen
(e) Depth to Bottom of Screen
(f) Static Water Level
(g) Drawdown Required
(h) Total Volume Pumped
(i) Number of Pumps
(j) Capacity of Pumps
(k) Duration of Pumping
(l) Initial and Average GPM
(m) Estimated Daily Pumpage
(n) Flow Meter

(3) Cross Section - Scaled, showing well points, riser, header, annular material (if used) and other equipment associated with each point. A typical construction style drawing may be utilized. Should the Contractor be permitted to use a deep well system, all information regarding it must be submitted.

(4) Drawdown Contour Map - Based upon a review of the surrounding area affected by the dewatering and upon boring within the project area and characteristics of the soils, the depth and pumping rate of dewatering system and the duration of the pumping, the Environmental Scientist shall submit both a narrative and diagram showing the anticipated maximum cone of depression which shall be shown from both above and in cross section on scaled diagrams. Contour lines on diagrams shall be labeled to show depth from land surface.

(5) Description of Site and Adjacent Areas - A short narrative shall be prepared describing the land use in the area paying attention to any potential sources of groundwater contamination that may migrate into the well's cone of depression, such as gas stations, chemical plants, wrecking yards, sanitary landfills, etc. Latest map of the area shall be included in the narrative.

(6) Groundwater Analysis - The Environmental Scientist shall develop and submit a sampling and analysis program subject to NYSDEC Approval (a minimum of one groundwater sample from a site well shall be collected and analyzed). A laboratory certified by the New York State Health Department shall analyze the samples. The sampling and analysis program must include but is not limited to the following:

NYSDEC REGION 2 - DEWATERING PROJECTS SAMPLING INFORMATION

NO.	PARAMETERS	TYPE	EPA METHOD	DETECTION
1	pH	Grab	150.1	EPA min
2	Temperature	°F	After Pumping	EPA min

3	Fecal Coliform	Grab	5-Tubes/3-Dilutions	2-MPN/100-ml
4	Oil & Grease	Grab	413.1	EPA min
5	BOD_5	Grab	405.1	EPA min
6	Total Suspended Solids	Grab	160.2	EPA min
7	Settleable Solids	Grab	160.5	EPA min
8	Chlorides	Grab	325.1-325.3	EPA min
9	Benzene	Grab	602	EPA min
10	Toluene	Grab	602	EPA min
11	Xylenes	Grab	602	EPA min
12	Ethylbenzene	Grab	602	EPA min
13	PCB's	Grab	608	(See Note 1)
14	Pesticides	Grab	608	EPA min
15	13 Priority Metals	Grab	200 series	EPA min
16	Acids Base/Neutrals	Grab	625-GC/MS	EPA min
17	Halogenated Volatiles	Grab	601-GC	EPA min
18	Nitrate/Nitrite	Grab	300 or 353.3	EPA min
19	Aromatic Volatiles	Grab	602-GC	EPA min
20	Cyanide (total or amenable)	Grab	335.1/335.2	EPA min

NOTE:

(1) List each individual aroclor found and report the concentration of each aroclor tested. Use the N.Y.S. detection limit, which is 0.065-µg/l.

Small dewatering projects with a total estimated pumped volume up to 15-Million Gallons (MG) require sampling analysis for parameters No.'s 1 through 12.

Medium dewatering projects with a total estimated pumped volume between 15-MG and 60-MG require sampling analysis for parameters No.'s 1 through 14.

Large dewatering projects with a total estimated pumped volume greater than 60-MG require sampling analysis for parameters No.'s 1 through 20.

Samples are to be collected after development of the well by a licensed well driller.

A laboratory certified by the NYS Department of Health must conduct all testing.

Irrespective of the aforementioned sampling requirements based on total estimated pumped volumes, the Department may require sampling of additional parameters if the proposed dewatering site is suspected of being contaminated.

40.16.4 SUBMISSION OF DEWATERING PLAN

The Environmental Scientist will be required to submit two (2) copies of the Dewatering Plan (together with all reports, materials, designs, drawings, maps and plans) to the Infrastructure Engineering Support Unit for review and approval. Once approved the Environmental Scientist shall submit in triplicate the Final Dewatering Plan to both the NYSDEC and the NYCDEP. The Dewatering Plan should be bound and bear the name of the Contractor, NYSDEC Application Number and the Signature of the preparer. All drawings and maps shall be on sheets 27-inches by 40-inches and to scale not less than 1"=30'.

40.16.5 DAMAGES

The Contractor shall be responsible for and shall repair at no cost to the City any damage caused by inadequate or improper design and operation of the dewatering system, and any mechanical or electrical

failure of the dewatering system.

40.16.6 SYSTEM REMOVAL

The Contractor shall remove all dewatering equipment and temporary electrical service from the site. All wells shall be removed or cut off a minimum of three (3) feet below the final ground surface and capped. Holes left from pulling wells or wells that are capped shall be grouted in a manner approved by the Engineer.

40.16.7 PAYMENTS

No additional or separate payment will be made for any work described herein. The costs for all labor, materials, equipment, permit fees, samples, tests, reports, services and insurance required or necessary to perform all the work described herein shall be deemed included in the price bid for all items of work.

Add the following new **SECTION RHCR-51.11**

SECTION RHCR- RHCR-51.11 – STAINLESS STEEL SLIDE GATES AND APPURTENANCES

RHCR-51.11.01 SUMMARY

A. The Contractor shall furnish, install, and test stainless steel slide gates and appurtenances as indicated and in compliance with Contract Documents.

RHCR-51.11.02 REFERENCES

A. ASTM International (ASTM):
   1. A240: Standard Specification for Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels and for General Applications
   2. A276: Standard Specifications for Stainless Steel Bars and Shapes.
   3. B584: Standard Specification for Copper Alloy Sand Castings for General Applications.
   4. D2000: Standard Classification System for Rubber Products in Automotive Applications.
   5. D4020: Standard Specification for Ultra-High-Molecular-Weight Polyethylene Molding and Extrusion Materials

B. American Welding Society Code.

C. American Water Works Association (AWWA):
   1. C561: Fabricated Stainless Steel Slide Gates

RHCR-51.11.03 DESCRIPTION

A. Gate sizes and operating data are indicated on the Gate Schedule in the mechanical process Contract Drawings.

RHCR-51.11.04 QUALITY ASSURANCE

A. Gates shall be the product of one manufacturer.

B. Gates shall be manufacturer's standard cataloged product and modified to provide compliance with the drawings, specifications and the service conditions specified and indicated.

C. Slide gates and appurtenances must be fabricated, assembled and tested in the United States of America or Canada.

D. Welding: In accordance with latest applicable American Welding Society Code, ASME Welding Code, or equivalent.

E. Shop tests as specified, including shop leakage testing of each gate at the design unseating head to confirm compliance with the leakage rate specified and indicated.

F. The Contractor shall obtain the gates, actuators and appurtenances from the gate manufacturer, as a complete and integrated package to insure proper coordination and compatibility and operation of the system.

G. Provide services of manufacturer's authorized service technician, specifically trained on type of equipment specified:
   1. Service Technician must be present on site for all items listed below. Person-day requirements listed are exclusive of travel time, and do not relieve Contractor of the obligation to place equipment in operation as specified.
   2. Installation: Inspect grouting, location of anchor bolts; setting, leveling, alignment, field erection; coordination of electrical connection:
      a. 1/2 person-day.
   3. Functional Testing: Calibrate, check alignment and perform a functional test. Tests to include all items specified.
      a. 1 person-day.

4. Field Performance Testing: Field performance test equipment specified.
   a. 1 person-day.
5. Vendor Orientation: Provide classroom and field operation and maintenance instruction including all materials, slides, videos, handouts and preparation to lead and teach classroom sessions.
   a. 1/2 person-day.
6. Any additional time required of the factory-trained service technician to assist in placing the equipment in operation, or testing or to correct deficiencies in installation, equipment or material shall be provided at no additional cost to the City of New York.

H. Manufacturer of gates shall have a minimum of (5) operating installations with gates of the size specified and in the same service as specified operating for not less than (5) years or manufacturer of gates shall utilize a Project Manager that is experienced in stainless steel gate design and construction. The Project Manager shall be an employee of the gate manufacturer and shall have designed a minimum of (5) operating installations with gates of the size specified and in the same service as specified operating for not less than five (5) years.

RHCR-51.11.05 SUBMITTALS

A. Submit the following:

1. Certified shop and erection drawings for each gate on the manufacturer's title block, drawn to-scale, dimensioned with US customary units, front and right side section views. Include details required for installation, minimum clearances, and anchor bolt locations. Show actuator mounted on gate. Define operating or floor level, opening size, gate invert, and slide height. Provide frame details. Include tag numbers, total weight, and reference detail drawings for frame type.
2. Data sheet for each gate indicating materials for frame, slide, stem, guide seals, invert seal, stem cover, lift nut, fasteners, and any coatings used. Reference all applicable
3. design and welding standards. Indicate minimum thickness, maximum slide deflection, maximum slide stress, operating stem L/r ratio. Include operator data.
4. Gate operator and gear reducer drawings and data sheets.
5. Shop drawing data for all accessory items.
6. Manufacturer's literature as needed to supplement certified data, annotated so it is clear which model, materials, accessories, and options are being provided.
7. Operating and maintenance instructions and parts lists.
8. For manufacturers not named, provide a listing of reference installations as specified with contact names and telephone numbers.
9. Certified results of gate shop testing, including shop leakage test results of each gate at the design unseating head specified and indicated.
10. Certified results of actuator shop testing from the actuator manufacturer.
11. List of recommended incidental parts other than those specified.
12. Shop and field inspection reports.
13. Qualifications of field service engineer.
14. Recommendations for short and long term storage.
15. Shop and field testing procedures and equipment used.
16. Special tools.
17. Manufacturer's product data, specifications and color charts for shop painting.
18. The latest ISO 9001 series certification or quality system plan.
19. Material Certification:
    a. Provide certification from the equipment manufacturer that the materials of construction specified are recommended and suitable for the service conditions specified and indicated. If materials other than those specified are proposed based on incompatibility

with the service conditions, provide technical data and certification that the proposed materials are recommended and suitable for the service conditions specified and indicated including an installation list of a minimum of (5) installations in operation for a minimum of (5) years. Provide proposed materials at no additional cost to the City of New York.

b. Where materials are not specified, provide technical data and certification that the proposed materials are recommended and suitable for the service conditions specified and indicated.

B. A copy of the mechanical process, structural, electrical and instrumentation Contract Drawings, with addenda that are applicable to the equipment specified in this section, marked to show all changes necessary for the equipment proposed for this specification section. If no changes are required, mark all drawings with “No changes required” or provide a statement that no changes are required.

1. Failure to include all drawings or a statement applicable to the equipment specified in this section will result in submittal return without review until a complete package is submitted.

C. A copy of this specification section with addenda and all referenced specification sections with addenda, with each paragraph check-marked to indicate specification compliance or marked and indexed to indicate requested deviations and clarifications from thespecified requirements.

1. If deviations and clarifications from the specifications are indicated, therefore requested by the Contractor, provide a detailed written justification for each deviation and clarification.
2. Failure to include a copy of the marked-up specification sections and or the detailed justifications for any requested deviation or clarification will result in submittal return without review until marked up specifications and justifications are submitted in a complete package.

RHCR-51.11.06 DELIVERY, STORAGE, AND HANDLING

A. The Contractor shall provide for delivery, storage and handling all products furnished under this Section.

RHCR-51.11.07 INCIDENTAL PARTS, SPECIAL TOOLS, AND SUPPLIES

A. One set of all special tools required.

RHCR-51.11.08 SPECIAL WARRANTY PROVISIONS / GUARANTEE PERIODS

A. Not Used.

RHCR-51.11.09 MANUFACTURERS

A. Stainless Steel Slide Gates:

1. Whipps, Inc.
2. RW Gate Co.
3. Or approved equal.

RHCR-51.11.10 SLIDE GATE CONSTRUCTION

A. Provide all gates produced by a single manufacturer and designed for installation in the channels and structures as specified and indicated.

B. Gate Configuration: As indicated in the Gate Schedule on the mechanical process Contract Drawings.

C. Provide all gates in conformance with AWWA C561 and as specified.

D. Self-contained, rising or non-rising stem, flush bottom type with self-adjusting seals. Gates with adjustable wedges or wedging devices are not acceptable.

E. Gates with adjustable wedges or wedging devices are not acceptable

F. Provide all structural components 1/4 inch minimum thickness.

G. Gate assemblies shall be media blasted or passivated in accordance with ASTM A380 prior to

shipment to remove all mill scale, weld splatter, discoloration, or other surface imperfections.

H. Leakage Rate:
   1. Seating head and unseating head conditions: Leakage not to exceed 0.05 gpm per foot of seating perimeter.

I. Assembly to consist of the following:
   1. Frame.
   2. Slide.
   3. Stem
   4. Seals.
   5. Benchstand with operator type as indicated in the Gate Schedule. Materials:

J. Materials:
   1. Frame Assembly and Retainers: ASTM A240 Type 316L stainless steel.
   2. Slides and Stiffeners: ASTM A240 Type 316L stainless steel.
      a. 1/4 inch minimum thickness.
   3. Seat, Seals and Facing: ASTM D4020 UHMW (Ultra-high Molecular Weight Polyethylene
   4. Invert Seal for upward acting gates only: ASTM D2000 Neoprene or EPDM
   5. Stems: ASTM A276 Type 316 stainless steel.
      a. Minimum diameter: 1.5 inch.
   6. Lift Nuts: ASTM B584 Bronze
   7. Floorstand and Wall Brackets: ASTM A276 Type 316L stainless steel
   8. Gear Operator Housing: Cast aluminum or ductile iron
   9. Hardware, studs and nuts: ASTM A276 Type 316 stainless steel
   10. Anchor bolts: Type 316 stainless steel. Minimum diameter of 1/2 inch.

K. Slide:
   1. Slide and reinforcing stiffeners welded to the slide.
      a. Stainless steel plate, minimum 1/4 inch.
      b. Reinforcement: Provide a minimum of two horizontal stiffeners welded to theslide and two vertical stiffeners welded to outside of the horizontal stiffeners.
      c. Provide slide to engage the guide a minimum of 1 inch on each side and have a minimum material thickness of a 1/4 inch.
         1) Gates with the width of the gate opening x maximum design head is 80 ft^2 or greater, provide the portion of the slide that engages the guide members 1/2 inch thick edge design where it engages the guide.
         2) Gates with the width of the gate opening x maximum design head is 120 ft^2 or greater, provide the portion of the slide that engages the guide members 3 inch thick edge design where it engages the guide.
      d. Provide the stem connector constructed of two angles or plates welded to the slide. Provide a minimum of two bolts connecting the stem to the stem connector.
   2. Deflection: Maximum of 1/720 of the span or 1/16 inch whichever is smaller, under design head specified.

L. Seals:
   1. Provide a self-adjusting seal system suitable for the leakage, frequent cycling and velocities specified herein, and mounted such that there is no obstruction to the specified gate opening size.
   2. Provide gates equipped with UHMW polyethylene seat/seals to restrict leakage and to prevent metal to metal contact between the frame and slide.
   3. Extend the seat/seals to accommodate the 1.50 x the slide height with the gate in the fully open or fully closed position.

4. Provide all upward opening gates with a resilient flush bottom seal for sealing the invert of the gate.
5. Provide all downward opening weir gates with self-adjusting UHMW seat/seals across the invert member.
6. Provide all seals mechanically fastened to the frame or slide, force fit seals or seals attached with adhesive are not acceptable.
7. Provide all seats and seals to be field replaceable without the need to remove grout or concrete and without the need to remove the frame from the wall or wall thimble.
8. Gates using “J” or “P” seals are not acceptable.

M. Frames:

1. Provide frame assembly including guide members, invert members and yoke members constructed of formed stainless steel plate with a minimum thickness of 1/4 inch.
2. Provide gussets to support the guide members for unseating gates as required by the design head specified and indicated.
   a. Provide gussets extended to support the outer portion of the guide assembly and positioned to transfer the load to the anchor bolts or the wall thimble studs.
3. Provide frames for mounting type as indicated in the Gate Schedule.
   a. Embedded.
   b. Wall mounted with stainless steel anchor bolts and non-shrink, non-metallic grout or EPDM gasket.
   c. Thimble mounted with stainless steel mounting studs and mastic gasket.
4. Provide all wall mounted and thimble mounted gates with a flanged frame. Flat frame gates are not acceptable.
5. Provide all wall mounted and wall thimble mounted frames with a minimum guide weight of 11 lbs/ft and a minimum guide extension weight of 6.5 lbs/ft.
6. Provide guide extensions constructed of C-channel shape or similar. Angles are not acceptable guide extensions.
7. Frame Guides and Invert Members: Provide frames as a unitized one-piece, fully welded assembly.
   a. Bolt together two-piece guide frames are not acceptable and will not be approved.
   b. Bolt-on yokes are acceptable when necessary to facilitate slide removal.
   c. Frames that require field assembly are not acceptable unless the overall frame size exceeds a size suitable for shipment on a standard flatbed truck.
8. Provide the frame guides extending to accommodate the entire height of the slide when the slide is in the fully opened position on upward opening slide gates or downward opening weir gates.
9. For self-contained gates, provide a yoke across the top of the frame guides with the yoke formed by two structural members fixed to the top of the guides to provide a one- piece rigid frame.
   a. Provide the yoke designed to allow removal of the slide.
10. Provide a rigid stainless steel invert member across the bottom of the opening.
    a. Invert member: Flush bottom type on upward opening gates with a minimum weight as specified.
11. Provide a rigid stainless steel top seal member across the top of the opening on gates designed to cover submerged openings.
12. Provide a rigid stainless steel member across the invert of the opening on downward opening weir gates.

N. Stems:

1. Provide a threaded operating stem to connect the operating mechanism to the slide.

2. For rising stem gates provide the threaded portion engaging the operating nut in the manual operator or motor actuator.
3. For non-rising stem gates provide the threaded portion engaging the nut on the slide.
4. Minimum stem outside diameter of 1-1/2 inches.
5. Stem extension pipes are not acceptable.
6. Provide the stem constructed of solid stainless steel bar for the entire length
7. Tensile strength: Not less than 60,000 psi for stems.
8. Provide the stem threaded to allow full travel of the slide unless otherwise specified or indicated.
9. L/R: Not to exceed 200.
10. Provide the stem in accordance with AWWA C561, to withstand in tension the loads caused by an 80 pound effort on the manual crank or handwheel without exceeding 25 percent of the ultimate tensile strength of the stem material.
11. Provide the stem, in tension, designed to withstand a load caused by a 40 pound effort on the crank or handwheel without exceeding 1/5 of the ultimate tensile strength of the stem material.
12. Provide the threaded portion of the stem machined rolled or cut full depth ACME type threads with 16 micro-inch or better finish. Stub threads are not acceptable.
13. Provide stems of more than one piece joined by bronze or stainless steel couplings with the coupling bolted to the stem.
14. Provide dual stems for upward opening gates wider than 60-inch when the opening width is 2 x greater or more than the height of the slide. Provide dual stems for downward opening gates wider than 48 inch when the opening width is 2 x greater or more than the height of the slide.
15. Provide stems on manually operated gates with an adjustable stop collar to prevent over closing of the gate.
16. For rising stem gates, provide clear plastic covers with 1 inch graduations. Provide vent holes to prevent condensation.

RHCR-51.11.11 STEM GUIDES

A. Provide stem guides where required to maintain L/R of 200 or less for the unsupported length of the stem

B. Provide stem guides and brackets of Type 316L stainless steel.
   1. Adjustable in two directions.
   2. Minimum Thickness: 1/4 inch.
   3. Bushings: UHMW or bronze.

RHCR-51.11.12 MANUAL OPERATORS

A. Provide a manual gate operator for each gate where specified and indicated.
   1. Provide all gates with slides 24 inches tall or taller with a gearbox operator suitable for use with a portable operator.

B. Type of operator as indicated in the Gate Schedule.

C. Manually operated floorstands and benchstands:
   1. Handwheel or crank operated floorstand or benchstand as indicated in the Gate Schedule.
      a. Handwheel: No gear reduction.
      b. Handwheel or Crank Gearbox Operator: Single or double gear reduction.
      c. Material: Cast ductile iron housing.
   2. Provide a threaded cast bronze lift nut to engage operating stem.
   3. Provide roller bearings above and below a flange on the operating nut to support both

opening and closing thrusts.

4. Operate gates under the operating head and design head, as specified and indicated, with no greater than a 40 pound effort on the crank or handwheel.
5. Gears, where required, steel with machined cut teeth designed for smooth operation.
6. Provide Type 304 or 400 Series stainless steel pinion shafts on crank operated benchstands and floorstands supported on tapered roller bearing or ball bearings with all components totally enclosed in a weatherproof housing with a removable cover.
    a. Design bearing arrangement for use with portable operators specified herein.
7. Provide mechanical seals on the operating nut and the pinion shafts to exclude moisture and dirt and prevent leakage of lubricant out of the hoist mechanism.
8. Provide lubricating fittings for the lubrication of all gears and bearings.
9. Floorstands: Provide a Type 316L stainless steel pedestal, constructed of minimum Schedule 40 tube and 3/8 inch thick base plates, designed to position the input shaft or crank operator or handwheel approximately 36 inches above the operating level.
10. Benchstands: Provide with a rectangular cast ductile iron base machined and drilled for mounting purposes. Provide all adaptor plates of Type 316L stainless steel.
11. Permanently attach or cast an arrow with the word "OPEN" on the floorstand, benchstand or handwheel indicating the direction of rotation to open the gate.
12. Handwheels: Minimum 15 inches, maximum 24 inches diameter and removable.
13. Cranks: Cast aluminum or stainless steel with revolving nylon grip and removable.
14. Provide two gearboxes for all upward opening gates 60 inch wide and larger and with opening widths greater than 2 x gate height. Provide two gearboxes for all downward-opening gates wider than 48 inch wide and larger and with opening widths greater than 2 x gate height.
    a. Provide Type 316 stainless steel interconnecting shaft.
    b. Provide flexible couplings at each end of the interconnecting shaft.
    c. Provide a handwheel or crank mounted on the pinion shaft of one of the gear boxes.

D. Extended Operators:
1. Provide an extended operator system to bring the pinion shaft to 36 inches above the operating level utilizing chain and sprockets when the centerline of the handwheel on a non-geared operator is located 48 inches or more above the operating level.
2. Chainwheels are not acceptable.
3. Provide a removable Type 316L stainless steel cover to enclose the chain and sprockets.
4. If the centerline of the pinion shaft is 60 inches or less above the operating level a handwheel may be used with a gearbox in lieu of the extended operator system specified above.

E. Operating Nut:
1. When indicated or specified provide 2 inch square operating nut and with a non-rising stem.
    d. Nut Material: Bronze.
    e. Where indicated and specified provide a Type 316L stainless steel or cast iron floor box be set in the concrete floor above the gate as indicated.

F. Provide one Type 316L stainless steel T-handle wrench for operation. Floorstands and Wall Brackets:
1. Provide Type 316L stainless steel floorstands of a height such that the handwheel or crank operated pinion shaft is located 36 inches above the operating level.
2. Provide Type 316L stainless steel wall brackets to support floorstands.
3. Provide wall brackets reinforced to withstand in compression a minimum of 2 x rated output of the operator with an 80 pound effort on the crank or handwheel.

RHCR-51.11.13 ELECTRIC MOTOR ACTUATORS

A. Provide in accordance with Section 40 23 13.03 - Electric Motor Actuators.

RHCR-51.11.14 HYDRAULIC ACTUATORS

A. Provide in accordance with Section 40 05 59.01 - Interceptor Gates.

RHCR-51.11.15 SHOP PAINTING

A. Primer and Finish Paint: Shop apply to all exterior ferrous surfaces, high solids epoxy in accordance with Section 09 91 00 - Painting.

B. Ferrous surfaces which are not to be painted shall be given a shop applied coat of grease or rust resistant coating.

C. Provide additional shop paint coating for touch-up to all surfaces after installation and testing is completed and equipment accepted.

RHCR-51.11.16 SHOP TESTING

A. Assemble each gate and inspect for proper seating.
   1. Check clearance between frame and disc seating surfaces.

B. Fully open and close each gate in guide system to ensure gates operate freely as recommended by the gate manufacturer.

C. Conduct a shop leakage test at the design unseating head on each gate to confirm leakage as specified and indicated for Field Testing.

D. Operate floorstands and benchstands to insure proper assembly and operation. Repeat tests until specified results are obtained.

E. Correct or replace promptly all defects or defective equipment revealed by or noted during tests at no additional cost to the City of New York.

RHCR-51.11.17 EXAMINATION / PREPARATION

A. Not used.

RHCR-51.11.18 INSTALLATION

A. Install items in accordance with shop drawings, manufacturer's printed instructions and as indicated.

B. Clean debris, dirt, and gravel, from inside of gates and channels before placing gates. Install slide gates in completely assembled condition.

C. Erect and support slide gates in positions free from distortion and strain on appurtenances during handling and installation.

D. Inspect material for defects in workmanship and material.

E. Clean out debris and foreign material from gate opening and seats, test operating mechanisms to check proper functioning, and check nuts and bolts for tightness. Repair gates and other equipment which do not operate easily or are otherwise defective.

F. Set floorstand operators and stem guides so stems run smoothly in true alignment. Anchor guides firmly to walls. Check distances from centerlines of gates to operating level or base of floorstand and adjust if necessary to suit actual conditions of installation.

RHCR-51.11.19 FIELD TESTING

A. After installation of gates, and after inspection, operation, testing and adjustment have been completed by the manufacturer's field service technician, conduct operating and leakage test for each gate in presence of the Engineer to determine its ability to operate as specified, and to operate smoothly without jamming under specified conditions.

B. Test all operators.

C. Leakage Test: Leakage not to exceed 0.05 gpm per foot of seal perimeter.

   1. Conduct tests at design heads shown in the slide gate schedule.

D. Immediately correct or replace all defects or defective equipment revealed by or noted during tests at no additional cost to the City.

E. Repeat tests until specified results are obtained.

F. Contractor to provide all water labor, piping, testing equipment for conducting tests.

G. Make all adjustments necessary to place equipment in specified working order at time of above tests.

H. Remove and replace equipment at no additional cost to the City with equipment that will meet all requirements specified and indicated if unable to demonstrate to the satisfaction of the Engineer that equipment will perform the service specified, indicated and as submitted.

RHCR-51.11.20 FIELD TOUCH-UP PAINTING

After installation and testing accepted by the Engineer, apply touch-up paint to all scratched, abraded and damaged shop painted surfaces. Coating type and color shall match shop painting.

RHCR-51.11.21 MEASUREMENT

Payment will be made at the lump sum price bid for each size and type of Stainless Steel Sliding Gate

RHCR-51.11.22 FIELD TOUCH-UP PAINTING

Payment will constitute full compensation for furnishing all plant, labor, materials and equipment, and performing all operations necessary for the installation and testing of the fabricated gates as specified and as shown in drawings.

Payment will be made under:

Item No.	Item Pay	Unit
51.11SG01	Sluice Gate 36"	EA.
51.11SG02	Sluice Gate 30"	EA.
51.11SG03	Sluice Gate 18"	EA.
51.11SG04	Sluice Gate 15"	EA.
51.11SG05	Sluice Gate 12"	EA.

END OF SECTION

Add the following new **SECTION 40 05 19**

SECTION 40 05 19
DUCTILE IRON PROCESS PIPING

PART 1 GENERAL

1.01 SUMMARY

A. The Contractor shall provide all labor, materials, equipment, incidentals, and appurtenances as shown, specified, and required to furnish, install, and test all ductile iron process pipe complete and operational.

C. Schedules:

1. Refer to the following Section(s) for additional information on the piping that is to be constructed using the pipe materials and methods specified herein:

a. Section 33 06 01 - Schedule for Buried Piping.

b. Section 40 06 01 - Schedule for Exposed Piping.

1.02 MEASUREMENT AND PAYMENT

The contract price for “DUCTILE IRON PROCESS PIPE must be the unit price bid per linear foot for each size, kind, and class of sewer and must cover the cost of all labor, materials, plant, equipment, samples, tests and insurance required and necessary to construct the ductile iron process pipe sewers of the sizes and to the lines and grades shown, including the earth excavation of all materials of whatever nature encountered (See Section 40.03 - Earth Excavation); all sheeting and bracing; pumping, fluming, bridging, breaking down and filling in of abandoned sewer appurtenances, connections, concrete cradle and encasements; crushed stone bedding and encasements, maintaining flow in sewers, backfilling, cleaning up, and furnishing and installing all other items necessary to complete this work and do all work incidental thereto, all in accordance with the plans, specifications and standards and as directed by the Engineer

ITEM	DESCRIPTION	UNIT
40.0506FM	6” Ductile Iron Process Pipe	LF
40.0510FM	10” Ductile Iron Process Pipe	LF

1.03 . RELATED SECTIONS

A. Section 09 91 00 – Painting.

B. Section 33 01 10.60 – Disinfection of Piping, Tanks, Structures, and Equipment.

C. Section 33 05 05 – Buried Piping Installation.

D. Section 33 06 01 – Schedule for Buried Piping.

E. Section 40 05 05 – Exposed Piping Installation.

F. Section 40 05 06 – Couplings, Adapters, and Specials for Process piping.

G. Section 40 05 07 – Hangers and Supports for Process Piping.

H. Section 40 06 01 – Schedule for Exposed Piping.

I. Section 40 42 13 – Process Piping Insulation.

1.04 REFERENCES

A. AWWA C104 Cement-Mortar Lining for Ductile-Iron Pipe and Fittings for Water

B. AWWA C110 Ductile-Iron and Gray-Iron Fittings, 3-in. through 48-in., for Water and Other Liquids

C. AWWA C111 Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fittings

D. AWWA C115 Flanged Ductile-Iron Pipe with Ductile-Iron or Gray-Iron Threaded Flanges

E. AWWA C151 Ductile-Iron Pipe, Centrifugally Cast, for Water

F. AWWA C153 Ductile-Iron Compact Fittings, 3-in. through 24-in. and 54-in. through 64-in., for Water Service

G. AWWA C606 Grooved and Shouldered Joints

H. ASTM B98 Copper Silicon Alloy Rod, Bar and Shapes

I. ASTM C283 Resistance of Porcelain Enameled Utensils to Boiling Acid

J. ASTM B117 Standard Practice for Operating Salt Spray (Fog) Apparatus

K. ASTM D714 Standard Test Method for Evaluating Degree of Blistering of Paints

L. ASTM D5162 Standard Practice for Discontinuity (Holiday) Testing of Nonconductive Protective Coating on Metallic Substrates

M. ASTM E96 Standard Test Methods for Gravimetric Determination of Water Vapor Transmission Rate of Materials

N. ASTM G22 Antibacterial Test

O. ASTM G95 Standard Test Method for Cathodic Disbondment Test of Pipeline Coatings (Attached Cell Method)

P. ANSI/ASME B16.1 Cast Iron Pipe Flanges and Flanged Fittings

Q. DIPRA Handbook of Ductile Iron Pipe

R. NY Spec 24-C-38 Caulking

S. New York City Building Code

T. CEN-EN-598 Ductile iron pipes, fittings, accessories and their joints for sewerage applications – Requirements and test methods

1.05 DESCRIPTION

A. This Section includes requirements for providing ductile iron process pipe and accessories in accordance with applicable standards and regulations. In addition:

1. The scope of this Section shall include all ductile iron process pipe, fittings, and specials.

2. The extent of ductile iron process piping is shown on the Contract Drawings. Ductile iron process pipe service, pipe diameter, coating, lining, pressure rating, joint type, and testing requirements are specified in the following section(s):

a. Section 33 06 01 - Schedule for Buried Piping.

b. Section 40 06 01 - Schedule for Exposed Piping.

3. Ductile iron process pipe, fittings, appurtenances, and specials shall be furnished and installed complete with all necessary jointing materials, wall castings, wall sleeves, specials, adapters, and other appurtenances as shown on the Contract Drawings, as specified herein, and/or as necessary and required for a complete installation.

a. Couplings for ductile iron process pipe shall be provided as specified in Section 40 05 06 - Couplings, Adapters, and Specials for Process piping.

b. Hangers and support for ductile iron process pipe shall be provided as specified in Section 40 05 07 - Hangers and Supports for Process Piping.

4. Where shown on the Contract Drawings, the Contractor shall provide all labor and materials for making connections between ductile iron process pipe and existing lines(s) installed under other contracts, including all specials required to connect ductile iron process pipe to pipe of dissimilar material(s).

5. The scope of this Section shall include all painting, coating, lining, gaskets, harnesses, bolts, nuts, and other appurtenances and material required to provide and assemble the lines.

1.06 QUALITY ASSURANCE

A. Qualifications of Manufacturer:

1. The manufacturer shall have a minimum of five (5) years of experience in the design and fabrication of ductile iron process pipe, fittings, appurtenances, and specials of similar size, capacity, and type to those shown on the Contract Drawings and specified in the Contract Documents, and shall show evidence of at least five (5) substantially similar installations in satisfactory operation.

2. Linings and coatings:

a. Lining and coating manufacturer shall have a minimum of five (5) years of experience in protecting pipelines exposed to the service conditions specified in the Contract documents, and shall show evidence of at least five (5) substantially similar installations in satisfactory operation.

3. When linings and coatings are not applied by the manufacturer, the lining and coating Subcontractor shall have a minimum of five (5) years of experience in the application of the specified linings and coatings for the specified service, and shall show evidence of at least five (5) substantially similar installations.

B. Supply and Compatibility:

1. All ductile iron process pipe, fittings, appurtenances, and specials included in this Section shall be provided by the Contractor through a single, qualified ductile iron process pipe manufacturer.

2. The pipe and fittings shall be designed, fabricated, and installed in accordance with standards referenced herein.

3. The Contractor shall bear responsibility for the quality of all factory-applied linings and coatings, regardless of the location of application.

4. The Contractor shall verify compatibility between the ductile iron process pipe, fittings, appurtenances, specials, and other Work.

C. Regulatory Requirements:

1. Ductile iron process pipe shall conform to the American National Standards Institute (ANSI) and American Water Works Association (AWWA) Standards specified herein and recommendations as given in the Ductile Iron Pipe Research Association (DIPRA) “Handbook of Ductile Iron Pipe.”

2. Ductile iron pipe for City water shall conform to the rules and regulations of the Bureau of Water Supply; requirements contrary to such rules and regulations specified herein shall be disregarded.

1.07 SUBMITTALS

A. Submittals for all ductile iron process pipe shall comply with the requirements of Section 33 05 05 - Buried Piping Installation, and Section 40 05 05 - Exposed Piping Installation.

1.08 DELIVERY, STORAGE, AND HANDLING

A. The Contractor shall deliver materials provided under this Section in accordance with the

requirements of the Contract Documents. In addition:

1. Pipes shall be loaded on properly padded saddles not less than 6-in. in width so that they do not bear against each other.

2. The whole load shall be securely fastened together as well as to any vehicle to prevent movement in transit.

B. The Contractor shall store and handle materials provided under this Section in accordance with the requirements of the Contract Documents. In addition:

1. Special care in handling shall be exercised during delivery, storage and handling of pipe to avoid damage and setting up stresses. Pipe and specials stored prior to use shall be stored in such a manner as to keep the interior free from dirt and foreign matter.

2. The Contractor shall maintain the circular shape of the pipe and prevent distortion. Each length of pipe shall be temporarily braced with an approved type of internal spider in each end of the pipe during erection.

3. Handling Coated Pipe:

a. Coated pipe shall be protected at all times and handled with equipment designed to prevent damage to the coating, such as stout wide canvas slings and wide padded skids.

1) The use of bare chains, cables, hooks, metal bars or narrow skids in contact with the coating will not be permitted.

b. All pipe handling and hauling equipment shall meet the approval of the Engineer before use.

1.09 SPARE PARTS, SPECIAL TOOLS, AND SUPPLIES

A. Not Used

1.10 WARRANTY

A. Not Used

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Ductile iron process pipe and fittings shall be as manufactured by the following:

1. American Cast Iron Pipe Co., Birmingham, AL;

2. McWane Inc., Birmingham, AL;

3. U.S. Pipe and Foundry Co., Birmingham, AL;

4. Or approved equal.

B. Ceramic Epoxy Lining:

1. Protecto 401, as manufactured by Induron Protective Coatings, Birmingham, AL.

2. Or Approved Equal.

C. Expansion Joints:

1. Series 500, as manufactured by Mercer Rubber Company, Hauppauge, NY;

2. Or approved equal.

D. Flanged Adapters:

1. McWane Inc., Birmingham, AL;

2. Smith-Blair, Inc., Texarkana, AR;

3. Victaulic Co., Easton, PA;

4. Or approved equal.

2.02 MATERIALS / EQUIPMENT

A. Pipe shall be in accordance with AWWA C151 for push-on or mechanical joint pipe and AWWA C115 for flanged pipe and shall be of grade 60 42 10 ductile iron. The above standards cover ductile iron pipe with nominal pipe sizes from 3-in. up to and including 64-in. in diameter. Working pressure for the pipe shall be as called for in these Standards.

B. Pipe:

1. All pipe, including flanged pipe, for sizes up to and including 12-in. shall have a wall thickness equal to Special Thickness Class 56 as specified in AWWA C151.

2. All pipe, including flanged pipe, for sizes over 12-in. and up to 54-in. shall have a wall thickness equal to Special Thickness Class 54 as specified in AWWA C151.

3. All pipe sizes 60-in. and 64-in. shall have a wall thickness equal to pressure class 350.

C. Fittings:

1. Fittings shall be ductile iron and shall be in accordance with AWWA C110. Any other fittings, not included in AWWA C110, shall conform in design and performance to the requirements of this Standard.

2. Blind, filler, companion and reducing flanges shall conform to ANSI/ASME B16.1.

3. Where compact fittings are shown or indicated, items shall be in accordance with AWWA C153.

D. Flanged Joints:

1. Threaded Flanges: Shall be solid, threaded, ductile-iron, flanges meeting the requirements of AWWA C115. Threaded flanges and pipe shall be assembled and faced by the pipe manufacturer; field or shop assembly will not be accepted. Threaded flanges shall be screwed on tight without overstressing the threads and, when properly assembled, shall be concentric with the pipe.

2. The dimensions of all flanges for pipe fittings and specials and the number and sizes of bolts, up to and including 54-in., shall be in accordance with ANSI B16.1, Class 125 standard flanges.

3. For pipe larger than 54-in., flanged pipe shall have ANSI Class 125 flanges integrally cast solid and at right angles to the pipe axis, and accurately faced and drilled smooth and true. Flange bolt holes shall be backfaced or spot-faced as required by ANSI specifications.

4. Flanges shall be tapped where tap or stud bolts are required.

5. Bolts: Bolts shall be in accordance with Appendix A of AWWA C115 and as follows: Flanged joints shall be made with bolts or stud-bolts with a nut on each end. Bolts, stud-bolts and nuts shall be ANSI heavy dimension, semi-finish, with square heads and cold-punched hexagonal nuts. For bolts 1¾-in. in diameter and larger, stud-bolts shall be used. Bolt size shall be American Standard for ANSI Class 125 flanges. Where flanged joints are in manholes or submerged in tanks, bolts, stud-bolts, and nuts shall be silicon bronze, ASTM B98, Alloy A, of dimensions and sizes equal to steel bolts, stud-bolts, and nuts specified in Appendix A of AWWA C115.

6. Gaskets: Flange gaskets shall be in accordance with Appendix A of AWWA C115. They shall be full-face gaskets for flanged joints on 12-in. diameter and smaller pipe and shall be of the ring type for flanged joints on larger pipe.

7. After each flanged joint has been made, all bolt heads and nuts, and all surfaces of the flanges not to be painted shall be given two coats of asphaltic coating meeting the requirements of AWWA C151.

E. Grooved-Type Joints:

1. Shall be in accordance with AWWA C606 and Section 40 05 06 - Couplings, Adapters, and Specials for Process piping

F. Push-On Type Joints

1. Shall be in accordance with AWWA C111.

G. Expansion Joints:

1. Heavy Duty Rubber Expansion Joints shall be installed where shown on the Contract Drawings.

2. Each Expansion Joint shall be installed with minimum of two control rods and compression sleeves, and as shown on the Contract Drawings.

H. Mechanical Joints:

1. Mechanical joints shall be assembled in accordance with AWWA C600 where required or shown on the Contract Drawings. Joints shall be restrained or harnessed to withstand test and surge pressure.

I. Flanged Adaptors:

1. Bolt hole and bolt patterns shall conform to the mating flange patterns as specified in the piping paragraphs. Bolts, nuts, and flange gaskets shall conform to the specifications for the adjacent piping.

2. Shall have ductile iron bodies.

3. Shall have a rated working pressure of 175 psig.

4. Pipe shall be anchored by using anchor studs drilled into the coupling and connected pipe for nominal pipe size 12-in. and smaller. For nominal pipe sizes over 12-in., pipe shall be restrained by harnesses or pipe supports as specified for sleeve type couplings.

J. Harnesses:

1. Where shown, specified or required, harnesses for pipe with mechanical joints shall be provided.

2. For ductile-iron pipe and fittings with mechanical joints that require harnessing, restrained type mechanical joint pipe will be considered as an alternate upon submission to the Engineer for approval.

3. Joint Assemblies: Joint assemblies shall be designed to resist pullout of the joints at the test pressures specified for the piping system.

K. Sleeves:

1. Sleeves shall be in accordance with AWWA C110. They shall be of ductile iron and shall be provided at all points where pipes will pass through walls and floors and where wall or floor castings are not provided. Unless otherwise shown, sleeves shall have intermediate collars not less than ½-in. thick and 1½ to 2-in. high located at the center of the wall.

2. For exterior walls of structures, wall sleeves shall be plain ends and of flush wall design.

3. Where shown on the Contract Drawings, modular wall seals shall be installed in the annular space between the pipe and the sleeve. In all other locations, caulk shall be installed in the annular space between the pipe and the sleeve. Caulking materials shall be in accordance with N.Y. Spec 24-C-38. For flanged pipe, sleeves shall be fabricated large enough to accommodate flanges.

L. Sleeve-Type Couplings:

1. Sleeve-type couplings shall be in accordance with Section 40 05 06 - Couplings, Adapters, and Specials for Process piping

2. Pipe and fittings for use with sleeve-type flexible couplings shall be plain end.

3. Sleeve wall thickness shall be the same as the associated ductile iron process pipe wall thickness.

M. Wall Castings, Connecting Pieces, and Special Fittings:

1. Wall castings and connecting pieces shall be in accordance with AWWA C110, 250 psi pressure rating, unless specified otherwise. Concrete encased wall castings connected to sluice gates and valves shall be cast from alloy iron, Ni-Resist Type 1, International Nickel Co. or approved equal. Wall castings and connecting pieces shall be furnished with ANSI Class 125 flanged ends, bell ends, flare ends and/or spigot ends where shown, specified or required.

2. Wall castings shall be of standard wall pipe dimensions, unless piping layout precludes their use, in which case special castings shall be furnished.

3. Design of Specials: Special fittings where required shall be of an approved design that meet the same specifications and have the same diameters and thicknesses as standard fittings. Any tees, crosses, elbows, laterals, reducers or other fittings of current ANSI or AWWA standard dimensions are not considered specials.

4. Intermediate Collar: Wall castings shall have an integrally cast intermediate collar not less than ½-in. thick and 1½-in. to 2-in. high located at the center of the wall unless otherwise shown.

5. Where space limitations prevent the use of through bolts for assembling flange connections, stud bolts shall be provided on wall casting flanges.

N. Cleanouts:

1. Cleanouts shall be furnished and installed where shown or specified.

2. Size: Cleanout openings shall be not less than 6-in. diameter for pipe 8-in. in diameter or larger. For pipe 6-in. in diameter or smaller, they shall be of the same diameter as the pipe.

3. Cleanout Covers: Cleanout covers which are blind flanges shall be in accordance with AWWA C110, except where conformation is required with the inside curvature of the pipe, in which case the covers shall be flanged plugs of proper shape with American Standard flange drilling.

4. Covers shall be fastened by means of Type 316 stainless steel studs, washers, and nuts, and shall be drilled and tapped for a 1½-in. diameter pipe connection.

5. Flange plugs shall be equipped with a dowel or other suitable means to provide proper setting.

2.03 FABRICATION / ASSEMBLING / FINISHES

A. Coatings and Linings:

1. General:

a. Ductile iron process pipe shall be lined and coated in accordance with the piping schedule(s) included in the following Section(s):

1) Section 33 06 01 - Schedule for Buried Piping.

2) Section 40 06 01 - Schedule for Exposed Piping.

b. All bolts, nuts, couplings and the like shall be coated after the joint has been made.

c. Painting shall be in accordance with Section 09 91 00 - Painting.

d. Pipe and fittings that are to be encased in concrete shall not be painted.

2. Cement Lining:

a. All ductile-iron pipe and fittings shall be furnished with a cement-mortar lining not

less than twice the standard thickness and seal coating meeting the requirements of AWWA C104.

3. Glass Lining Pipe and Fittings

a. Glass lining, pipe and fittings shall consist of a minimum of two (2) glass lining coats, one bonded or primer coat and one finish or gloss coat.

1) Each coating shall be applied in controlled thickness after the inside surface of the pipe has been prepared as required to assure a continuous and unbroken bond of the coating to the pipe.

2) The combined, finished coatings shall have a thickness from 8 to 12 mils, and a surface hardness of at least 6 on the Mohs scale.

3) The bond of the glass lining to the metal shall be sufficient to withstand a strain of 0.001-in./in. without damage to the glass.

4) Surface of glass shall have a dense, glazed finish nonadherent to grease, scum, wax or other sticky substances found in sludge.

b. Ensure that firing of pipe and applied coating layers shall provide a complete fusion to the pipe wall.

1) The compounding, firing and annealing technique shall assure a lining capable of withstanding thermal shock up to 260 °F without damage to the surface or structure of the coating or to its bond with the pipe material.

c. Finish coating shall be free from craters, porosity, crazing, scaling, or pinholes evident from visual inspection.

1) Pipe need not meet a spark test for continuity, but will be rejected for any faults detectable by visual inspection.

d. Finish coating shall be resistant to attacks from acids equivalent to a weight loss not greater than 3 mg /in2 as determined by the procedure for testing against citric acid, ASTM C283. The coating shall protect against etching or loss of gloss when subjected to cleaning procedures employing a 200°F water-steam mixture.

e. Glass-lined pipe shall not deviate more than 0.0125-in./ft of length from a centerline perpendicular to the flange face or square end of the pipe.

4. Ceramic Epoxy Lining:

a. Lining applicator:

1) Lining shall be applied by a certified firm or manufacturer with a successful history of applying linings to the interior of ductile iron pipe and fittings.

2) Manufacturer must be independently inspected at least two (2) times per year with certification stating compliance with the requirements specified herein.

b. Lining materials: Amine cured novolac epoxy containing at least 20% by volume of ceramic quartz pigment, and shall have:

1) A permeability rating of 0.00 as per Method A of ASTM E 96, Procedure A (test duration of 30 days).

2) Results equal to 0.0 undercutting after two years as per ASTM B 117.

3) Results to equal no more than 0.5mm undercutting after 30 days as per ASTM G 95 cathodic disbondment 1.5 volts at 77°F.

4) Immersion testing rated using ASTM D 714, with the following results after two years' duration testing of:

a) 20% Sulfuric acid: No effect.

b) 140°F 25% Sodium Hydroxide: No effect.

c) 160°F Distilled Water: No effect.

d) 120°F Tap Water (scribed panel): 0.0 undercutting with no effect.

5) Results of only trace growth using ASTM G 22 at 30°C after 7 days.

6) An abrasion resistance of no more than 3 mils (.075 mm) loss after one million cycles using European Standard EN 598, Section 7.8.

c. Application:

1) Condition of pipe prior to application: Prior to application of the ceramic epoxy lining:

a) Interior: No other coating or lining shall have been applied to the entire interior of the pipe.

b) Exterior: No other coating or lining shall have been applied to the first six inches of the exterior of the spigot ends.

2) Surface preparation:

a) Inspect application area for oil, grease, etc. prior to abrasive blasting. Solvent clean if necessary or required for coating application.

b) Abrasive blast application area using sand or grit abrasive media to remove all rust, loose oxides, etc. Only slight stains and tightly adhering oxide shall remain on application surface. If rust reappears before application, or if more than 12 hours elapses before application, repeat blasting procedure specified herein.

3) Lining:

a) Pipe shall be lined within 12 hours of surface preparation.

b) Apply 40 mils nominal dry film thickness to interior of pipe.

c) Lining shall not take place when the substrate or ambient temperature is below 40°F.

d) Ensure surface is dry and dust free.

e) Do not apply lining to flange faces.

4) Coating of Bell Sockets and Spigot Ends

a) Apply joint compound as per Manufacturer's instructions to the gasket area and spigot end up to 6 in. back from the end of the spigot end.

b) Apply 6 mils nominal, 10 mils maximum even coverage.

c) Manufacturer's joint compound shall be applied by brush to ensure full and complete coverage.

d) Care should be taken that the joint compound is smooth without excess buildup in the gasket seat or on the spigot ends.

e) Coating of the gasket seat and spigot ends shall be done after the application of the lining.

5) Number of Coats

a) The number of coats of lining material applied shall be as recommended by the lining manufacturer.

b) In no case shall lining material be applied above the dry thickness per coat recommended by Manufacturer in printed literature.

c) The maximum or minimum time between coats shall be that time recommended by Manufacturer.

d) To prevent delamination between coats, no material shall be used for lining which is not indefinitely re-coatable with itself without roughening of the surface.

6) Touch-Up and Repair

a) Use Manufacturer's joint compound for touch-up or repair in accordance with Manufacturer instructions

d. Inspection:

1) All ductile iron pipe and fitting linings shall be checked for thickness using a magnetic film thickness gauge as per SSPC PA-2.

2) Test interior of all pipe and fittings for pinholes with a non-destructive 2500-volt test in accordance with ASTM D5162. Any defects found shall be repaired and re-inspected prior to shipment.

e. Mark each pipe joint and fitting with the date of application of the lining system along with its numerical sequence of application on that date. Numerical sequence shall correspond with records maintained by the applicator of the Work.

5. Exterior Primer:

a. Pipe and fittings shall be shop coated on the outside in accordance with Section 09 91 00 - Painting, for use in exposed locations, such as inside buildings where finish painting or insulating is required.

6. Painting:

a. Pipe and fittings shall be painted in accordance with the requirements of Section 09 91 00 - Painting.

7. Asphaltic Coating:

a. Pipe and fittings that will not be exposed to view shall be coated with the standard asphaltic outside coating specified in AWWA C151, at twice the specified thickness.

b. Unlined pipe shall be coated with the standard asphaltic inside coating specified in AWWA C151.

8. Epoxy and Urethane Coatings:

a. Epoxy and urethane coatings shall be applied in accordance with Section 09 91 00 - Painting.

9. Concrete Encased Pipe:

a. Pipe and fittings which are to be encased in concrete where water-tightness is to be obtained shall not be coated or painted on the outside.

10. Labels:

a. In addition to the information required to be cast onto the pipe by AWWA C151, the letters "N.Y.C." shall be painted on the outside of each pipe, fitting, and special casting.

11. Pipe Couplings:

a. Where flexible or rigid couplings are to be used, the exterior coating on the ends of pipe and fittings shall be left off for approximately 8-in., but the interiors shall be lined throughout.

2.04 SOURCE QUALITY CONTROL / SHOP TESTS

A. Not Used

PART 3 EXECUTION

3.01 EXAMINATION / PREPARATION

A. Damaged pipe will be rejected and shall be replaced at the Contractor's expense.

3.02 INSTALLATION

A. Install ductile iron process pipe, fittings, and specials in accordance with the requirements of the following Section(s):

1. Section 33 05 05 - Buried Piping Installation.
2. Section 40 05 05 - Exposed Piping Installation.

3.03 FIELD TESTING / QUALITY CONTROL

A. Perform field testing and quality control of ductile iron process pipe, fittings, and specials in accordance with the requirements of the following Section(s):

1. Section 33 05 05 - Buried Piping Installation.
2. Section 40 05 05 - Exposed Piping Installation.

3.04 STARTUP / DEMONSTRATION

A. All potable water pipe shall be disinfected before they are placed into service, as specified in Section 33 01 10.60 - Disinfection of Piping, Tanks, Structures, and Equipment

3.05 ADJUSTING / PROTECTION / CLEANUP

A. Not Used

END OF SECTION

(1) Refer to Page 364:
Add the following new **SECTION 54.14**

SECTION 54.14
REMOVAL OF LARGE DEBRIS FROM SEWERS

54.14.1 DESCRIPTION

This item will be used to compensate the Contractor for additional costs associated with the presence of large debris, exceeding twelve (12) inches in its greatest dimension, detected during the sewer cleaning process that the Contractor will be required to remove from the existing sewers and sewer portions through the manholes and/or appurtenances.

The existing sewers must be defined as:

(a) Sewers that are to be reconstructed using DEP approved lining or shotcrete methods.
(b) Sewers that are shown, specified or ordered cleaned within the contract limits.

54.14.2. WORK INCLUDED

The Contractor must furnish all labor, materials and equipment and must do all work necessary to remove

and dispose of all large debris and obstructions from the invert, walls and crown of all existing sewers and sewer portions through the manholes and/or appurtenances, including encrusted deposits such as, but not limited to, concrete or mineral deposits and failed cured in – place pipe liner, to the satisfaction of the Engineer.

Prior to the start of work the Contractor will be required to submit a fluming/bypass-pumping detail in accordance with **Subsection 10.13 - (3) Existing Flow**. This fluming/bypass-pumping diagram will detail the Contractor's method to prevent debris, silt, and grease from migrating downstream during the removal operation. The Contractor will be required to clean the downstream sewer if the debris, grease, oil and silt from the removal are not captured and removed at no additional cost to the City. In addition, the Engineer must be informed of any large debris encountered, so that measurements may be taken to quantify the amount of large debris for removal and/or removed, by means of photographic and/or video documentation and be given an opportunity to measure such debris prior to removal. Measurement of quantity of large debris may be taken before or after removal from sewer at the discretion of the Engineer. No payment will be made for any large debris removed from the sewer and disposed of prior to measurements being taken.

54.14.3 DISPOSAL

All material removed from the sewers and sewer portions through the manholes and/or appurtenances under this contract must become the property of the Contractor and must be properly disposed of away from the site, at the Contractor’s expense.

In the event that the removal of large debris from the sewers and sewer portions through the manholes and/or appurtenances is subcontracted, it must be Contractor’s responsibility to ensure that the subcontractor properly disposes of the material removed away from the site.

54.14.4 MEASUREMENT

The quantity of removal of large debris from the sewer to be measured for payment must be the volume in cubic yards of large debris physically removed and properly disposed of away from the site of work to the satisfaction of the Engineer.

For the purposes of payment, large debris must be defined as solids larger than twelve (12) inches in their greatest dimension from existing sewers through the manholes and/or appurtenances. Silt must be defined as all sedimentary material.

Should the Contractor be required to remove and dispose of any debris not falling within the guidelines specified herein, then payment for the cost of all labor, material, equipment, etc., must be made in accordance with **Articles 25 and 26** of the Contract.

54.14.5 PRICE TO COVER

The contract price for Item No. 54.14RD – REMOVAL OF LARGE DEBRIS FROM SEWERS will be the unit price bid per cubic yard and will cover the cost of all labor, materials, and equipment or necessary for the proper removal and disposal of all large debris, encrusted deposits or debris requiring Chipping in the existing sewers and sewer portions through the manholes regardless of size, including fluming, dewatering and/or diversion of the flow in the existing sewers together with all work incidental thereto, all in accordance with the plans and specifications and as directed by the Engineer. Chipping must be defined as described in Paragraph DSS-4 (E) Additional Payment.

54.14.6 NO SEPARATE PAYMENT

No separate payment will be made for any submissions required under **Subsection 54.14.2**. In addition, no payment will be made for on site equipment downtime, including the costs of the sewer cleaning machine or for the payment of any idle labor forces.

Payment for Removal of Large Debris from Sewers will be made under the Item Number as calculated below:

The Item Number for Removal of Large Debris from Sewers has seven characters. (The decimal point is considered a character, the third character.)

(1) The first five characters must define Removal of Large Debris from Sewers:

54.14

(2) The sixth and seventh characters must define Removal of Large Debris from Sewers:

RD – Removal of Large Debris from Sewers

(3) The Item Number together with Description and Pay Unit as provided in the Bid Schedule is provided below:

Item No.	Description	Pay Unit
54.14RD	REMOVAL OF LARGE DEBRIS FROM SEWERS	C.Y.

(2) STANDARD SEWER AND WATER MAIN SPECIFICATIONS Dated August 8, 2022 - Page 449

Add the following new **SECTION 64.14**

Section 64.14 - Lead Service Line Replacement

64.14.2. INTENT

(A) Description

This section describes the work to be performed when a lead house service line must be replaced.

Replacing a lead service line includes replacing the entire service line between the corporation stop at the water main and the meter inside the building. Partial replacements or repairs of lead service lines are not allowed, per the Rules of the City of New York ("RCNY") Title 15, Chapter 20, Section 20-03(s). See Section 64.14.1 (D), below.

A partial lead service line (i.e., a lead service line that was previously extended or repaired) will be treated as a lead service line for the purposes of this Section.

All Work must conform to the requirements of RCNY Title 15, Chapter 20. If a conflict exists between these specifications and Title 15, Chapter 20 of the RCNY, Title 15 Chapter 20 of the RCNY will take precedence.

(B) Responsibility

Replacing a lead house service line will be:

1. The responsibility of the Contractor, and performed at the Contractor's sole expense, when:
    a. The Contractor has damaged the lead service line.
    b. The lead service line is cut or damaged due to the Contractor's means and methods.
2. The responsibility of the property owner, and performed by a contractor retained by the property owner at the property owner's sole expense when:
    a. Upon careful excavation, the service line is found to be already damaged or leaking.
3. The responsibility of the City, and performed by the Contractor at the City's expense, as paid for under bid items **64.14A, 64.14AL, 64.14AM, 64.14B, 64.14BL, 64.14BM,** and / or **64.14V** when:
    a. The service line is in good condition and must be relocated or modified in order to construct a City owned utility, structure, or Green Infrastructure asset.

The final determination of responsibility for each service line to be replaced will be made by the Commissioner, in consultation with NYCDEP.

If a service line is required to be replaced at the Contractor's sole expense, the requirements of this Section must be followed.

(C) Outreach and property owner coordination

If a service line is required to be replaced at the Contractor's sole expense, the Contractor is responsible for all outreach and property owner coordination.

If a service line is required to be replaced at the property owner's sole expense, the Engineer, in consultation with NYCDEP, will provide the DEP 3-day water notice to the property owner.

If a service line is required to be replaced at the City's sole expense, the outreach will be as follows:

1. The Engineer will perform the initial outreach to the property owner and distribute the water filters provided in accordance with **Section 64.14.3.(O)**.
2. The Engineer, in consultation with NYCDEP, will obtain a written consent agreement from the property owner to:

a. Have their service line replaced at the City's expense;

b. Allow the Contractor access to perform the service line replacement; and

c. Accept the restoration provided by the City under **Section 64.14.3.(N)**.

The Contractor must not commence any service line restoration until and unless a written consent is obtained from the property owner by the Engineer.

(D) Partial replacement of lead service lines

Lead service lines will be partially replaced in the following conditions:

1. The service line is required to be replaced at the City's sole expense, but the property owner does not provide the required agreement per **Section 64.14.1.(C).2** above;

2. Removal of encumbrances would prevent access to the building (i.e., require the removal of stoops) or cause a building code violation; or

3. The Engineer deems the extent of encumbrances to be excessive.

Where a lead service line is to be partially replaced, the Contractor will install a new curb valve and appurtenances per Section **64.14.3.(D)** below and replace the service line between the main and the curb valve. The replaced service line will be paid for under the appropriate items from **Sections 64.11** and **64.12**. The cost of installing the new curb valve and appurtenances must be included in the prices bid for the appropriate items from **Sections 64.11** and **64.12**.

For the purpose of providing water filter cartridges per **Section 64.14.2.(G)** below, a partial replacement, will be considered "fully replaced" upon completion of the partial replacement inclusive of the installation of the curb valve.

64.14.3. MATERIALS

(A) All service pipe, insulation, and jacketing must be in accordance with **Section 25.01,** modified as follows: Only new materials must be used for installation of service pipes. New service pipes of two (2) inches in diameter or less must be Type K copper tubing. Lead service pipes larger than two (2) inches in diameter are not anticipated in this Contract. Materials for service pipes and fittings must be in accordance with Section PC605, Chapter 6 of the New York City Plumbing Code, latest version.

(B) Backfill must be in accordance with **Section 40.06**.

(C) Sawcutting must be in accordance with of **Section 71.11**.

(D) Temporary restoration of streets, sidewalks, and curbs must be in accordance with **Section 71.31**.

(E) Permanent restoration of streets, sidewalks, and curbs must be in accordance with **Section 71.41**.

(F) Permanent restoration of pavements on private property must be in accordance with **Section 71.41**.

(G) Water filters: The water filter must include a water pitcher and an adequate supply of matching filter cartridges. The water pitcher must be a 7 cup standard PUR pitcher filter system as manufactured by KAZ, Inc. Filter cartridges must be supplied at no separate cost to cover the duration from distribution of the pitcher to the property owner for six months after the service line is fully replaced. Filters must be certified by the Water Quality Association (WQA) to remove 99% of lead in the water.

64.14.4. METHODS

(A) Service Line Details

1. Service lines less than one (1") inch will be replaced with one (1") inch service lines. Service lines one (1") inch and greater will be replaced with the same size service line.
2. Each new water service pipe must be laid in a straight line at right angle to the street main and extending from the tap to the main building control valve. Where surface or subsurface conditions make it impracticable to install a service pipe in accordance with the above conditions, it may be otherwise laid in an alternate location, provided the Contractor submits a plan showing the proposed alternative location of the water service pipe, and obtains the prior written approval of the Engineer as well as any and all applicable permits.
3. Unless otherwise authorized by the Engineer in writing, each copper tubing service must have at least three (3) feet of copper tubing formed in a gooseneck connection to the tap and laid to the right hand, facing the tap. Each copper pipe with threaded joints must have, at the tap or wet connection, an offset swing joint consisting of four (4) elbows and three (3) pieces of pipe, each piece of pipe not less than two (2) feet in length, laid to the right side facing the connection. Connections to the City main by ductile iron or cast iron must be made directly; no offset swing joint is permitted.
4. Where buildings are constructed on pile foundations or other unyielding supports, the copper tubing service must have two (2) goosenecks, and the copper pipe with threaded joints must have two (2) offset swing joints, one at the tap or the wet connection, laid to the right side facing the main, and one immediately outside the building, laid to the right side facing the building, with a sleeve to carry the service through the foundation wall.
5. All water service pipes must be installed and maintained at a depth of at least three and one-half (3½) feet and no more than six (6) feet below ground unless written permission to vary this requirement is obtained from the Engineer. Where a water service pipe has less than three and one-half (3½) feet of cover, due to subsurface conditions, it must be insulated and protected and possibly plated, as required, in a manner approved by the Engineer. No water service pipes will be allowed at a depth of 30" or less.
6. A water service pipe must not be laid within six (6) inches of any other subsurface structure, conduit or pipe, nor directly below and parallel with any subsurface structure, conduit or pipe.
7. All surfaces to be insulated must be cleaned of all scale, rust, oil, and foreign matter and must be dry and free of frost prior to and during application of insulation. All testing of piping to be insulated must be completed prior to the application of any insulation materials. All insulation and accessory materials must be stored in an area that is dry and protected from weather before and during insulation application. Insulation must be applied based on the approved manufacturer's requirements and as approved by the Engineer.
8. If a house ground connection is attached to the existing service line, it must be reconnected to the new service line at no additional cost.

(B) Installation

1. Water service pipe laid in a sewer or construction trench must be protected from settlement by supports or by securely benching the service in the side earth wall where applicable, while maintaining minimum distance requirements from sewer pipe.

2. After a tap has been inserted or service pipe installed, the backfill around and one (1) foot over the main and service must be Select Granular Fill and carefully tamped under and around the main and service line. The remainder of the backfill must be Approved Excavated Suitable Fill and must be satisfactorily compacted either by tamping or flushing, or both. Where trenchless technology (tunneling) has been permitted the backfill of the tunnel portion must be well compacted with Select Granular Fill. Tunneling is the preferred method and should be used where practical to avoid disturbing encumbrances.
3. If removal of encumbrances is necessary, the removal will be paid for under item 6.27A, DEMOLITION OF STRUCTURES. Prior written approval of the Engineer is required.

(C) Disconnect and Reconnecting Service Connections

The Contractor must disconnect existing lead service lines and reconnect new copper pipe at the City water main for all water service lines which are required to be replaced.

1. In all instances, where lead water service lines are to be replaced, the Contractor must excavate at the water main, disconnect the supply at the existing tap, and continue with replacement of the lead service line.
2. New taps may be required to be installed prior to the installation of the water service line. The Engineer must determine if an existing tap must be replaced. The Contractor must expose the existing tap and provide the Engineer the opportunity to inspect the tap and make such determination. Any and all costs associated with the installation of new taps, including but not limited to coordination and accommodation efforts, is deemed included in the unit items herein and no additional payment will be made to the Contractor.

(D) Curb Valves

1. All new water service lines must have new curb valves installed with iron extension boxes, unless directed by the Engineer.
2. Curb valves must be full port ball valves or non-rising stem gate valves designed for a minimum of 150 psi of working pressure.
3. All curb valves must be set in the sidewalk area and located 18” (eighteen) inches inside the face of the curb. Any variance from this requirement must be submitted in writing to, and approved in writing by, the Engineer.
4. Curb valves must be provided with a tar coated iron extension box with a cover which must be installed flush with the sidewalk within ¼ inches. Curb valves 2 inches and smaller may be full port ball valves equipped with a quarter turn shutoff.

(E) Building Control Valves

1. Where possible, existing building control valves must remain. If directed by the Engineer or if a building control valve is not present, a new building control valve must be installed. Removal and disposal of deteriorated valves or valves that contain lead will be incidental to installation of new building control valves. Building control valves must be made of material similar to the water service pipes and must be gate type except that valves between ¾” and 2” may be full port ball valves. Lead content of valves must not exceed 0.25%.
2. Building control valves must be placed on the water service pipe within 2’ of the building wall and located where they will be accessible at all times. Valves must be designed for a 150 psi minimum working pressure. For combined service pipes 2 inches or smaller, the building control valve may be an OS&Y valve or UL/FM-approved full-port ball valve approved by the New York City Department of Buildings.

(F) Building Penetration

1. Where required, existing sleeves must be removed and new sleeves must be installed and grouted to properly seal the building penetration. Additional building penetrations should be avoided when possible. The sleeves to be used must be ductile iron. The cost for sleeves will be deemed included in the costs of all scheduled items.

2. If the existing service is cast into the wall without a removable sleeve, the Contractor must drill accordingly to allow for the installation of a sleeve. If the sleeve is non-removable, in good condition, and can be properly sealed, the Contractor must reuse the existing penetration, subject to the Engineer's approval. Core holes must be centered over the existing service pipe. The Contractor must take all necessary precautions to prevent coring water from collecting inside the building and to prevent damage to property in the building.

(G) Test of Service Pipe

Each new water service line must be subjected to a water test under the street main pressure by the Licensed Master Plumber in the presence of the Engineer. All pipes and appurtenances must remain uncovered for the duration of the test and must show no sign of leakage.

(H) Flushing of Service Lines

The Contractor must perform flushing in accordance with AWWA C810, Section 4.4.1. The cost for all flushing will be deemed included in the costs of all scheduled items.

(I) Water Main Shutdowns

The work under this item must be performed in strict accordance with RCNY, Title 15, Chapter 20, and as directed by the Engineer. If it is necessary to shut off the water main while repairing, replacing, or installing a service pipe, the Licensed Master Plumber must immediately notify the Engineer. No separate payment will be made for water main shutdowns that are needed by the Contractor; payment will be deemed included in the individual bid items.

(J) Dewatering

The work under this item requires installation, maintenance, operation, deconstruction, and removal of dewatering equipment to adequately lower the groundwater table to a point below the trench subgrade. Dewatering will be required at all ordered locations where groundwater is present in the trench, or as directed by the Engineer. The work must be performed in strict accordance with the Standard Water Main Specifications, NYCDOT Standard Highway Specifications, and as directed by the Engineer. There will be no separate payment for the installation, maintenance, operation, deconstruction, or removal of any dewatering equipment; payment will be deemed included in the individual bid items.

(K) Extended Work Hours

The Contractor must schedule corporation stop (tap) and wet connection inspections only during regular business hours, unless approved by the Engineer. All work performed during extended work hours and any work done on holidays or on weekends, must be performed in strict accordance with the NYCDOT permits, and as directed by the Engineer. Work performed during extended hours will not be paid for separately; payment will be deemed included in bid items.

(L) Time is of the Essence

Construction of building service lines must be completed promptly and without delay in order to minimize the impact on property owners. All service lines should be disconnected and reconnected (brought back on-line) on the same day of installation and no later than 6 pm. However, in no event will building service lines be disconnected for a duration greater than 24 hours. This may require the service line replacement to be done in a two-step process (main to curb valve, curb valve to meter) in order to minimize the impact on property owners, at no separate cost. If service line replacement is done as a two-step process, the overall time must not exceed six months.

(M) Final Cleanup

All pipes and valves removed during the Work will become the property of the Contractor. Lead pipes must be disposed of by the Contractor in full compliance with federal, state, and local environmental rules, policies, and regulations, and as approved by the Engineer. Project site must be left in a neat and clean condition. All tools, equipment, materials, debris, scrap, trash, etc. must be removed at the end of the work day and upon completion of the Work.

(N) Restoration

1. Restoration in roadways, curbs, and sidewalks

   Restoration of roadways, curbs, and sidewalks will be in kind to match existing, and will be paid for under the appropriate bid item, as described in **Section 71.41**.
2. Restoration on private property

   All excavations within the building line, except asphalt and concrete pavements, must be backfilled with the excavated material and levelled smoothly to the adjacent ground, and these costs must be included in the prices bid for replacement of service lines. The Contractor will not be responsible for removal or replacement of encumbrances on service line replacements paid for by the City.
   Encumbrances are the property owner's property that interfere with the lead water service line replacement and may include:
   a. Stoops, retaining walls, railings, decks, porches, fountains, statuary, or other structures other than sidewalks, driveways, or pavements;
   b. Shrubs, trees, or landscaping other than turf; and
   c. Walls, panels or finishes inside the building.

   Restoration on private property will be limited to installing new asphalt and concrete pavements, subject to approval by the property owner. If the property owner does not agree to the restoration below, no additional restoration will be provided. The following are the only items available for restoration on private property:
   a. Item 4.02 AG, ASPHALTIC CONCRETE WEARING COURSE, 3" THICK, S.Y.
   b. Item 4.13 AAS, 4" CONCRETE SIDEWALK, S.F.
   c. Item 4.13 BAS, 7" CONCRETE SIDEWALK, S.F.
   d. Item 4.20 SEEDING, S.Y.

(O) Water Filters and Test Kits

For every lead service line encountered, the Contractor must:

1. Submit a Lead Test request through NYC 311. NYCDEP will directly supply lead test kits to the property owner.
2. Provide a water filter meeting the requirements of **64.14.2.(G)** to the Engineer, who will distribute to the property owner immediately following lead service line replacement. The Contractor will not be paid separately for water filters; the costs of these items must be included with the prices bid for all items.

64.14.5. MEASUREMENT

(A) The quantities of REPLACEMENT OF SERVICE LINE UP TO 1 IN, UP TO 40 FT and REPLACEMENT OF SERVICE LINE 1-1/4 TO 2 IN, UP TO 40 FT to be measured for payment will be the actual number of service lines replaced.

(B) The quantities of ADDITIONAL LENGTH OF SERVICE LINE UP TO 1 IN BEYOND

40 FT and ADDITIONAL LENGTH OF SERVICE LINE 1 -1/4 TO 2 IN BEYOND 40 FT to be measured for payment will be the additional length, measured in linear feet, of service line beyond 40 feet measuring as the distance of a straight line from the centerlines of the water main to the meter or building main control valve, whichever is encountered first. Any quantity beyond the straight-line distance will require prior

written approval by Engineer.

(C) The quantities of REPLACEMENT OF SERVICE LINE UP TO 1 IN BETWEEN BUILDING CONTROL VALVE AND METER and REPLACEMENT OF SERVICE LINE 1-1/4 TO 2 IN, BETWEEN BUILDING CONTROL VALVE AND METER to be measured for payment will be the actual length of service lines replaced between the building control valve and meter.

(D) The quantities of INSTALL NEW BUILDING CONTROL VALVE 2 IN AND UNDER to be measured for payment will be the actual number of building control valves replaced.

64.14.6. PRICE TO COVER

(A) The price bid for REPLACEMENT OF SERVICE LINE UP TO 1 IN, UP TO 40 FT, ADDITIONAL LENGTH OF SERVICE LINE UP TO 1 IN BEYOND 40 FT, REPLACEMENT OF SERVICE LINE 1-1/4 TO 2 IN, UP TO 40 FT, and ADDITIONAL LENGTH OF SERVICE LINE 1 -1/4 TO 2 IN BEYOND 40 FT must be a unit price bid per each service line replaced, and must include the cost of all labor, materials, plant, equipment, and insurance required to complete the Work as specified, including but not limited to: obtaining permits, scheduling appointments, performing site visits, providing notification, mobilization, sawcutting, excavation work disconnection and reconnection of service at main, sheeting, removal and disposal of existing service lines (inclusive of any salvage value), curb valves and curb valve boxes, removal or destruction of existing tap, installation of new taps, installation of gooseneck and offset swing joint, installation of new curb valve, coring and installing seal for building penetration, excavation of all materials of whatever nature encountered, restoration of private property, permanent restoration of street, curb and sidewalks including pigmented concrete as required, cleaning up, hauling away of all materials, removal of all debris and water incidental to connecting the water service line to the building control valve, inspection and testing, flushing, and buried insulation of water service lines due to insufficient depth, and demobilization together with all other items necessary to complete the Work.

(B) The price bid for REPLACEMENT OF SERVICE LINE UP TO 1 IN BETWEEN BUILDING CONTROL VALVE AND METER and REPLACEMENT OF SERVICE LINE 1-1/4 TO 2 IN, BETWEEN BUILDING CONTROL VALVE AND METER must be a unit price bid per linear foot, and must include the cost of all labor, materials, plant, equipment, and insurance required to complete the Work as specified, including but not limited to the meter setter, couplings, and other fittings; cleaning up; hauling away of all materials; together with all other items necessary to complete the Work.

(C) The price bid for INSTALL NEW BUILDING CONTROL VALVE 2 IN AND UNDER must be a unit price bid per each valve replaced, and must include the cost of all labor, materials, plant, equipment, and insurance required to complete the Work as specified, including valve supports; connections to service and building lines; earth excavation of all materials of whatever nature encountered; backfilling; cleaning up; hauling away of all materials; together with all other items necessary to complete the Work.

(D) When payment is made under this **Section 64.14** for replacement of a service line, no separate payment will be made under **Sections 64.11** and **64.12**.

(E) No direct payment will be made to the Contractor for insulating service lines where required. All costs associated with furnishing, delivering, and installing insulation and appurtenances will be deemed included in the prices bid for the items below.

Payment will be made under:

Item No.	Description	Pay Unit
64.14A	REPLACEMENT OF SERVICE LINE UP TO 1 IN, UP TO 40 FT	EACH
64.14AL	ADDITIONAL LENGTH OF SERVICE LINE UP TO 1 IN BEYOND 40 FT	LF
64.14AM	REPLACEMENT OF SERVICE LINE UP TO 1 IN BETWEEN BUILDING CONTROL VALVE AND METER	LF
64.14B	REPLACEMENT OF SERVICE LINE 1-1/4 TO 2 IN, UP TO 40 FT	EACH
64.14BL	ADDITIONAL LENGTH OF SERVICE LINE 1 -1/4 TO 2 IN BEYOND 40 FT	LF
64.14BM	REPLACEMENT OF SERVICE LINE 1-1/4 TO 2 IN, BETWEEN BUILDING CONTROL VALVE AND METER	LF
64.14V	INSTALL NEW BUILDING CONTROL VALVE 2 IN AND UNDER	EACH

(9) **Refer** to **Subsection 71.41.4 - Specific Pavement Restoration Provisions**, 530
Add the following to **Subsection 71.41.4**:

Specific Pavement Restoration Provisions:

(1) Within the limits of the full highway reconstruction, the restoration shall be accomplished and paid for in accordance with Highway Construction Plans, Details and Specifications for Highway Project ID. **SANDRDHK**.

(2) In street areas requiring sewer and water main work outside the limits of highway reconstruction the restoration will be as follows:

1. When overlay will be considered:

a. The permanent restoration over the **trench width and cutbacks only** will consist of a top course of one and one-half (1-1/2) inches of binder mixture on a base course of a minimum of four and one-half (4-1/2) inches of binder mixture, or a top course of a minimum of three (3) inches of binder mixture on a base course of a minimum of six (6) inches of concrete, to match the existing pavement as directed by the Engineer.

b. Finally, an overlay of three (3) inches of asphaltic concrete wearing course must be installed over the entire width of the roadway from **curb to curb** or **edge to edge** of existing roadway.

2. When overlay will not be considered:

(a) The permanent restoration over the trench width and cutbacks only shall consist of a top course of one and one-half (1-1/2) inches of asphaltic concrete wearing course on a base course of a minimum of four and one-half (4-1/2) inches of asphaltic concrete mixture, or a top course of one and one- half (1-1/2) inches of asphaltic concrete wearing course on a minimum of one and one-half (1-1/2) inches of asphaltic concrete mixture on a base course of a minimum of six (6) inches of high-early strength concrete, to match the existing pavement as directed by the Engineer

(3) The following requirements apply:

(a) Before the top course is installed, an additional width of asphalt beyond the edge of new base course shall be saw-cut and removed from all edges of trenches to a depth to accommodate the specified top course and the entire area restored. This additional removal shall be in accordance with paragraph (b) below.

(b) Pavement excavation along with saw cutting of pavements for sewer and water main trenches shall be in accordance with **Section 71.21 - Pavement Excavation** of the Standard Sewer And Water Main Specifications.

(c) At locations requiring the installation of a concrete base course, a reflective cracking membrane must be installed over joints prior to restoration, the cost of which shall be deemed included in the prices bid for all pavement restoration items.

Additionally, appropriate pavement keys as described below shall be used.

(d) Pavement keys **Type B-1** shall be used to insure a desired four (4) inch curb reveal (two and one-half (2-1/2) inch absolute minimum). Pavement key **Type A** shall be used in all intersections. Both keys are to be per Department of Transportation Specifications and Standard Details of Construction.

(e) Unless otherwise specified, the cost for Proctor analyses, in-place soil density tests, tack coating, eradication of temporary roadway markings, stripping or milling of pavement keys and adjustment of city-owned castings for all roadway work shall be deemed included in the prices bid for all pavement restoration items.

(f) Payment for placement of temporary pavement marking must be made under Item No. 6.49 - TEMPORARY PAVEMENT MARKINGS (4" WIDE).

(g) Payment for removal of existing pavement markings must be made under Item No. 6.53 - REMOVE EXISTING LANE MARKINGS (4"WIDE).

(h) Payment for placement of permanent pavement marking with thermoplastic reflectorized pavement markings (crosswalk and lane dividers) shall be made under Item No. 6.44 - THERMOPLASTIC REFLECTORIZED PAVEMENT MARKINGS (4" WIDE).

Item No. 6.44 L – PAVEMENT MARKINGS – LETTERS AND NUMBERS
Item No. 6.44 S – PAVEMENT MARKINGS – SYMBOLS

(i) Payment for pavement restoration must be made under the following items:

ITEM NO.	ITEM	PAYMENT DESCRIPTION
4.02 AB-R	Asphaltic Concrete Wearing Course, 1.5" Thick	(For 1.5" asphaltic concrete wearing course overlay from curb to curb or edge to edge.)
4.02 AG	Asphaltic Concrete Wearing Course, 3" Thick	(For 3" asphaltic concrete wearing course overlay from curb to curb or edge to edge.)
4.02 CB	Binder Mixture	(For binder mixture base course over trenches and cutbacks; binder mixture top course when overlay is required; binder mixture in Type A and B Keys; and binder mixture to fill in roadway depressions and to provide a leveling course prior to overlay where ordered.)
4.04 H	Concrete Base For Pavement, Variable Thickness For Trench Restoration, (High Early Strength)	(For concrete base course over trenches and cutbacks.)
4.04 HC	Concrete Base For Pavement, 10" Thick, For Pavement Reconstruction, (High Early Strength)	(For concrete base course from curb to curb or edge to edge.)

C. REVISIONS TO THE SPECIFICATIONS FOR TRUNK MAIN WORK

1) **Refer** to **Part 1 – Furnishing And Delivering Steel Pipes And Appurtenances 30 inches in Diameter and Larger, Section 11. Fabrications:** Page 4;
Add the following to **Section 11:**

All steel water mains shall be spiral welded pipes, and all steel water main fitting shall be fabricated from qualified spiral welded pipe. Can type pipe is not acceptable.

2) **Refer** to **Part 1 – Furnishing And Delivering Steel Pipes And Appurtenances 30 inches in Diameter and Larger, Section 13. Special Fittings:** Page 5;
Add the following to **Section 13:**

The steel reducer shall have a length of seven (7) feet for every twelve (12) inches reductions in diameter.

END OF SECTION
This Section consists of twenty-two (22) pages

BMP - PAGES

SPECIFICATIONS FOR CONSTRUCTION OF BEST MANAGEMENT PRACTICE (BMP) AND MITIGATION AREA

NOTICE

THE PAGES CONTAINED IN THIS SECTION ARE ISSUED FOR THE PURPOSE OF SPECIFYING THE REQUIREMENTS OF THE CONTRACT DOCUMENTS AND HEREBY MADE PART OF SAID CONTRACT DOCUMENTS.

[NO TEXT ON THIS PAGE]

TABLE OF CONTENTS

SPECIFIC PROVISIONS

Section No.	Title	Page No.
7.01	No Text	
7.02	No Text	
7.03	No Text	
7.04	Standard Sewer and Water Main Specifications	BMP-1
7.05	No Text	
7.06	No Text	
7.07	No Text	
7.08	No Text	
7.09	No Text	

STRUCTURES AND EQUIPMENT

Section No.	Title	Page No.
7.101	Structures and Equipment - Work Included	BMP-2
7.102	Dewatering	BMP-3
7.103	No Text	
7.104	No Text	
7.105	No Text	
7.106	No Text	
7.107-B	No Text	
7.108-A	No Text	
7.109-B	No Text	
7.110 – 7.117	No Text	
7.118-A	No Text	
7.119 – 7.129	No Text	

EARTHWORK AND GRADING

Section No.	Title	Page No.
7.301	No Text	
7.302	Clearing, Grubbing and Removals	BMP-11
7.303	No Text	
7.304-A	No Text	
7.305	No Text	
7.306	No Text	
7.307-A	No Text	
7.308	No Text	
7.309	No Text	
7.310	Plant and Sod Salvage	BMP-12
7.311	No Text	
7.312	No Text	
7.313	No Text	
7.314	No Text	
7.315	No Text	
7.316	No Text	
7.317	Soil Sampling And Disposal	BMP-16

LANDSCAPING AND RESTORATION - WORK INCLUDED

Section No.	Title	Page No.
7.401	No Text	
7.402	No Text	
7.403	No Text	
7.404-A	No Text	
7.405	No Text	
7.406	No Text	
7.407-A	No Text	
7.407-B	No Text	
7.408-B	No Text	
7.410	No Text	
7.411	No Text	
7.412	No Text	
7.413	No Text	
7.415-A	No Text	
7.417	No Text	
7.418	No Text	
7.419	No Text	

SOIL EROSION AND SEDIMENTATION CONTROL MEASURES

Section No.	Title	Page No.
7.501	Maintenance Of Erosion Control Measures	BMP-22
7.502	No Text	
7.503	No Text	
7.504-A	No Text	
7.505	No Text	
7.506	No Text	
7.507	No Text	
7.508	No Text	
7.509-A	No Text	
7.510	No Text	
7.511	No Text	
7.512	No Text	
7.513	No Text	

[NO TEXT ON THIS PAGE]

SPECIFIC PROVISIONS

7.01 LOCATION OF WORK
NO TEXT IN THIS SECTION

7.02 WORK INCLUDED
NO TEXT IN THIS SECTION

7.03 INSPECTION BEFORE BIDDING AND MANDATORY PRE-BID CONFERENCE
NO TEXT IN THIS SECTION

7.04 STANDARD SEWER AND WATER MAIN SPECIFICATIONS

A. Roadway Repair and Resurfacing
Unless otherwise specified, all work, materials, and equipment must conform to the applicable sections of the New York City Department of Transportation (NYCDOT) Standard Highway Specifications, May 2022, or latest edition.

B. Sewer Work
Unless otherwise specified, all work, materials, and equipment must conform to the applicable sections of the New York City Department of Environmental Protection Bureau of Water and Sewer Operations Standard Sewer and Water Main Specifications, August 2022, or latest edition (NYCDEP Standard Sewer and Water Main Specifications).

7.05 INSPECTION BY THE CITY, STATE AND FEDERAL GOVERNMENT
NO TEXT IN THIS SECTION

7.06 EXISTING UTILITIES
NO TEXT IN THIS SECTION

7.07 PERMITS REQUIRED
NO TEXT IN THIS SECTION

7.08 LAND FOR CONTRACTOR’S USE
NO TEXT IN THIS SECTION

7.09 LICENSED SURVEYOR FOR ENGINEER'S USE
NO TEXT IN THIS SECTION

7.10 CONSTRUCTION - SPECIAL REQUIREMENTS

7.101 STRUCTURES AND EQUIPMENT - WORK INCLUDED

Under structures and equipment work, Contractor must furnish all labor, materials and equipment and must do all work as specified herein and as shown on the Contract Drawings, including all incidental and appurtenant work required for a complete job.

The work must include items of work specified under the following sections:

Section No.	Title
7.102	Dewatering
7.103	No Text
7.104	No Text
7.105	No Text
7.107-B	No Text
7.108-A	No Text
7.109-B	No Text
7.117	No Text
7.129	No Text

7.102 DEWATERING

A. Description of Work

The Contractor must furnish, install, operate and maintain dewatering equipment as required, for construction work as specified herein. The dewatering equipment must include, but not be limited to, the following equipment items:

1. Pumps
2. Piping
3. Accessories
4. Wells.

B. General Requirements

1. General Specifications - Work performed under this Section must be in conformance with Section 40.02 of the NYCDEP Standard Sewer and Water Main Specifications.

2. Examination of the Sites - The Contractor must take all steps that he considers necessary to familiarize himself with the surface and subsurface conditions at the site, and must obtain the data that is required to analyze the water and soil conditions at the site. Any results of subsurface investigations made as part of the design of this project will be made available to the Contractor.

3. Shop Drawings - The Contractor must submit to the Engineer for approval shop drawings and any other material required to substantiate conformance with the requirements set forth in the specifications. Shop drawings must include a detailed plan of operations.

4. All dewatering activities required for all construction areas shown on the Contract Drawings, must be performed in accordance with Section 40.16 – Dewatering Permits in the SW pages. The Contractor must also obtain the dewatering permits listed in Section 40.16 – Dewatering Permits.

C. Dewatering

1. General Information - The Contractor must perform dewatering activities to ensure that all construction is performed under dry conditions. If a well point system is proposed, the Contractor must utilize a well driller licensed in the State of New York. The Contractor must always drill down to sand or gravel layer when available and when it is below the lowest excavated elevation.

   The Contractor must operate the dewatering pumps continuously, a day before and during construction until all associated work within the influence zone of the well point have been completed.

2. Care and Disposal of Water - Care of water must be in accordance with Section 15 - 1525 of the Environmental Conservation Law.

   Water from open cut and/or sheeted excavations, manholes, structures, trenches, or from whatever source, must be disposed of strictly in accordance with methods

approved by the Engineer.

The Contractor must submit proposed dewatering methods to the New York State Department of Environmental Conservation and New York City Department of Environmental Protection for the required permits as required in Section 40.14– Dewatering Permits. If a well point dewatering system is proposed, the Contractor must utilize a well driller licensed in the State of New York. Contractor must contact NYSDEC a minimum of 30 calendar days in advance of dewatering system startup.

When required by the Engineer, such water must be passed through a settling basin and tank of acceptable size and shape and equipped with an overflow. Each settling basin must be cleaned as required and as ordered by the Engineer.

Sufficient water to flush all sewers and drains must be provided by the Contractor when necessary. If any sewer, drain, catch basin, inlet or gutter receives dirty water attributable to the Site becomes filled or partially filled with sediment or debris, the Contractor must promptly and satisfactorily remove such deposits.

D. Design Criteria

1. Provide dewatering system which will lower and maintain hydrostatic pressure and groundwater levels to 2 feet below the prevailing excavation level or to a point no higher than 2 feet above the top of an impermeable stratum, if the subgrade is in the impermeable stratum. Groundwater levels shall be lowered for a time period as deemed necessary by the Engineer to ensure adequate factor of safety for the constructed structure.

2. Design dewatering methods so that the effluent discharge from the sediment control measures (sump pit, sediment tank) does not impact surface water using the following protocol which was developed to monitor dewatering effluent discharge:

   a. Monitoring of Dewatering Operations

      Prior to the start of dewatering operations, a visual inspection of the installation of the sediment control measure(s) such as a dewatering sump pit and/or a portable sediment tank must be made by the Engineer. Upon commencement of dewatering effluent discharge from the sediment control measures, at least three turbidity measurements of the effluent must be conducted over a 15 minute-period using the following methodology. If the arithmetic mean of these three turbidity measurements is greater than the ambient turbidity level, all dewatering operations must be discontinued until the Engineer is consulted regarding additional control measures.

E. Submittals

Submit the following for approval:

1. Working Drawings

   a. Type of dewatering system proposed, showing arrangement, location and depths of proposed system, complete description of equipment and materials to be used, procedure to be followed, standby equipment, standby power supply and proposed location(s) of points of discharge of water.

   b. Obtain approval from the Engineer and appropriate regulatory agencies prior to installation of system.

2. Prior to the start of construction dewatering, submit a report comparing site groundwater quality data with the NYSDEC, Division of Water Technical and Operational Guidance Series (TOGS) 1.1.1 Ambient Water Quality and Guidance Values and Groundwater Effluent Limitations and any other water quality standards, including NYCDEP Effluent Limitations if discharge into a sewer, to be complied with under permit(s) as applicable to the project.

F. Job Conditions

1. Subsurface Conditions

   a. Subsurface investigations and groundwater level determinations must be conducted by the Contractor prior to implementation as specified herein.

2. Responsibilities

   a. Select and install dewatering system to accomplish groundwater control as specified.

   b. Monitor quality of discharge from dewatering system to determine if soil particles are being removed by system.

   c. Measure to ascertain if groundwater movement is caused in adjacent areas by dewatering operations; take approved measures to minimize such movement.

   d. Take measures to prevent damage to property.

   e. Repair as approved damage, disruption or interference resulting directly or indirectly from dewatering operations.

   f. Remove sediments from all intercepted groundwater or surface water as specified herein and approved by the Engineer and the jurisdictional agency concerned. Under no circumstances must the Contractor directly discharge, without treatment, into the drainage channel or creek.

G. Sump Pit

The Contractor, at the direction of the Engineer must provide a stone filled pit with perforated standpipe/nozzle wrapped with filter fabric in which intercepted groundwater is pumped to an approved location.

The size and shape of the sump pit will vary due to site conditions. The size of pump should be determined from manufacturer's specifications.

1. The standpipe must be a perforated 12"-24" diameter corrugated metal or PVC pipe.
2. A base of 2" aggregate must be placed in the pit to a depth of 12". After installing the standpipe, the pit surrounding the standpipe must then be backfilled with 2" clean aggregate.
3. The standpipe must extend 12"-18" above the lip of the pit.

4. The standpipe must be wrapped with filter fabric before installation. If desired, 1/2" x 1/2" hardware cloth may be placed around the standpipe, prior to attaching the

filter fabric. This will increase the rate of water seepage into the pipe.

H. Surface Drainage

1. Intercept and divert surface drainage away from the splash pad or other excavations, wells by use of dikes, ditches, swales, open stone lined channel, temporary diversion pipes which could be either on the surface or buried, sumps or other means. To properly install buried diversion pipe the contractor may be required to excavate.
2. Design surface drainage systems to prevent erosion on or off the site or unwanted water flow.
3. Remove surface drainage system when no longer required.
4. Remove debris and restore site(s) to original conditions.

I. Drainage of Excavated Areas

1. Provide and maintain ditches of adequate size to collect surface and subsurface water and seepage which may enter excavations and divert water into sump so that it can be drained or pumped into drainage channels as approved by the Engineer and NYSDEC.
2. Install settling basins or other approved apparatus as necessary to reduce the amount of fine particles carried by water diverted away from excavation.
3. When no longer necessary, backfill and seal drainage ditches, sumps and settling basins with approved material.

J. Execution

1. Install dewatering system as specified and with the approval of the Engineer.
2. Demonstrate by approved methods that no soil particles are present in water after 12 hours of initial pumping or draining and additionally as directed.
3. Dispose of precipitation and subsurface water away and clear of the work area. Keep excavation dry.
4. Maintain continuous and complete effectiveness of the installation.
5. Maintain water level at such elevation that no damage to structure or plant material can occur because of excessive hydrostatic pressure. In any event, maintain water level two feet minimum below bottom of subgrade until sufficient concentrate work or backfilling or both has been completed to adequately offset uplift pressures.

K. Dewatering System Removal

1. Remove and dispose of all stone, filter fabric and piping that comprise curtain drains and/or sump pits used in dewatering in accordance with Federal, State and local regulations at a permitted site.
2. Backfill remaining space as necessary to restore surface and subsurface to its original or proposed condition in accordance with the Engineer's approval.

L. No Separate Payment

No additional or separate payment will be made for any work described herein. The

costs for all labor, materials, equipment, permit fees, samples, tests, reports, services and insurance required or necessary to perform all the work described herein shall be included in the price bid for all items of work.

7.103 CONCRETE

NO TEXT IN THIS SECTION

7.104 STEEL REINFORCEMENT
NO TEXT IN THIS SECTION

7.105 WELDING
NO TEXT IN THIS SECTION

7.106 OUTLET STILLING BASIN
NO TEXT IN THIS SECTION

7.107-B RIP-RAP STONE /ANGULAR NATURAL FIELD STONE
NO TEXT IN THIS SECTION

7.108-A ALUMINUM GRATING
NO TEXT IN THIS SECTION

7.109-B SEPARATION GEOTEXTILE FABRIC
NO TEXT IN THIS SECTION

7.110 SHEETING AND BRACING
NO TEXT IN THIS SECTION

7.111 VALVES
NO TEXT IN THIS SECTION

7.112 STONE PIERS FOR PEDESTRIAN/VEHICLE ENTRANCE
NO TEXT IN THIS SECTION

7.113 MISCELLANEOUS PIPING
NO TEXT IN THIS SECTION

7.114 STEEL WEIR PLATES
NO TEXT IN THIS SECTION

7.115 HOODS
NO TEXT IN THIS SECTION

7.116 ALUMINUM SLIDE GATE
NO TEXT IN THIS SECTION

7.117 GRAFFITI RESISTANT COATING
NO TEXT IN THIS SECTION

7.118-A BEEHIVE GRATES
NO TEXT IN THIS SECTION

7.119 LADDERS
NO TEXT IN THIS SECTION

7.120 TRASH RACK
NO TEXT IN THIS SECTION

7.121 MANHOLES, CHAMBERS & CATCHBASINS
NO TEXT IN THIS SECTION

7.122 MANHOLE STEPS
NO TEXT IN THIS SECTION

7.123 ASPHALT PAVING FOR PATH
NO TEXT IN THIS SECTION

7.124 TIMBER STOP LOG
NO TEXT IN THIS SECTION

7.125 ACCESS HATCHES
NO TEXT IN THIS SECTION

7.126 GRANITE CASCADES
NO TEXT IN THIS SECTION

7.127 TEMPORARY ASPHALT PAVEMENT
NO TEXT IN THIS SECTION

7.128 ASPHALT PAVING
NO TEXT IN THIS SECTION

7.129 CONCRETE STRUCTURES
NO TEXT IN THIS SECTION

7.300 EARTHWORK AND GRADING - WORK INCLUDED

Under earthwork and grading, the Contractor must provide all labor, material, tools and equipment necessary to complete the execution of the work in complete accordance with the Specifications and all Contract Drawings. The work must include items of work specified under the following sections.

Section Number	Title
7.301	No Text
7.302	Clearing, Grubbing and Removals
7.303	No Text
7.304-A	No Text
7.305	No Text
7.306	No Text
7.307-A	No Text
7.308	No Text
7.309	No Text
7.310	Plant and Sod Salvage
7.311	No Text
7.312	No Text
7.313	No Text
7.314	No Text
7.315	No Text
7.316	No Text
7.317	SOIL SAMPLING AND DISPOSAL

7.301 DEBRIS REMOVAL AND DISPOSAL
NO TEXT IN THIS SECTION

7.302 CLEARING, GRUBBING AND REMOVALS
Clearing, grubbing, and removals must conform to the requirements of the NYCDOT Standard Highway Specifications Section 6.01.

Measurement and payment for clearing, grubbing, and removals must be in accordance with Item number 6.01AC of the NYCDOT Standard Highway Specifications.

7.303 TEMPORARY WOODEN TREE GUARDS
NO TEXT IN THIS SECTION

7.304 EXCAVATION
NO TEXT IN THIS SECTION

7.305 CRUSHED STONE
NO TEXT IN THIS SECTION

7.306 TREE REMOVAL AND DISPOSAL
NO TEXT IN THIS SECTION

7.307-A GRADING
NO TEXT IN THIS SECTION

7.308 FILL ON-SITE
NO TEXT IN THIS SECTION

7.309 IN-STREAM SEDIMENT REMOVAL
NO TEXT IN THIS SECTION

7.310 PLANT AND SOD SALVAGE

A. Description of Work

1. Description: The Contractor must furnish all labor, materials, equipment and services necessary for Plant and Sod Salvage as indicated on the Contract Drawings and as specified herein. Plant salvage involves many ecological, horticultural and site-specific issues and must be designed and supervised by the Restoration Specialist with all operations approved by the Engineer.

2. Work Included: Activities under this item must include all work necessary and incidental for the removal, storage and transplanting of existing small trees, shrubs and herbaceous plant material (also referred to as vegetation within this section).

3. General Requirements:

a. The Contractor must salvage and transplant all vegetation as specified, in accordance with the plans, specifications, and directions of the Engineer.

b. Work must be done under the guidance of the Restoration Specialist with experience in transplanting and nurserymen techniques. Plant salvage activities must precede the use of heavy trucks, excavating or grading equipment in salvage areas, except equipment used for the salvage work itself. The Contractor will be liable for any damages to property by transplanting operations and all area disturbed shall be restored to their original condition, to the satisfaction of the Engineer.

c. Plant salvage operations must only occur when plants are dormant during the fall, winter, and early spring and ground is not frozen and soil is moist.

d. All plants shall be dug to retain as many fibrous roots as possible and the roots shall be contained securely in place. The Contractor shall use approved transplanting equipment.

e. Only vegetation that lacks insect or disease damage may be salvaged.

f. Prior to salvaging plants and soil, the receptor site must be fully prepared. The plant material must be excavated including the soil to a depth of 18". Extreme care must be taken to avoid damaging plants or crumbling soil below. If the receptor site is deeper than 18", additional soil must be excavated from the donor site to be placed below. This material must be stockpiled on tarps and placed separately prior to the placing of the top 18" layer. The plant material and topsoil must be stored on tarps, kept moist and protected until it can be placed. Work must be scheduled so that plant material can be transplanted within thirty-six (36) hours of being excavated. Method for transplanting material must be selected to minimize compaction of soil. Soil must be tamped, not compacted in place. Salvaged plant material must be well-watered in place.

g. Tagging and Demarcation of Salvaged Materials

i. Prior to transplanting, small trees, shrubs and herbaceous plants should be tagged and demarcated and surveyed and their future locations selected and marked by the Restoration Specialist for approval by the Engineer.

4. Related Sections:

a. Section 7.401 – Landscaping for Terrestrial Zone and

Wetland Zone

5. Submittals:

Plant and Sod Salvage Submittal: Thirty (30) days prior to any and all small tree, shrub, and sod salvage operations the Contractor must submit a Sequence of Operations, Methods of Removal including Equipment, Schedule, Plan, Dimensioned Cross-section and Detailed Plan of any enclosure for temporary storage of vegetation (including but not limited to capillary beds). The Sequence of Operations and Schedule must include the following but is not limited to salvage, storage, and transplanting operations, with dates specified for each operation. The Plan must include the following at minimum: all vegetation to be salvaged; all storage locations to be used; and final locations for transplants to be installed.

B. Small Tree and Shrub and Herbaceous Salvage Operations

1. Description

Salvage and transplanting of small trees and shrubs shall consist of the removal of existing small trees and shrubs; re-planting at new locations; storing on the site for later replanting; or delivering removed trees to locations away from the site at the direction of the Engineer. Operations shall include all necessary digging, bailing, burlapping, platforming, hauling, handling and heeling-in as required to the satisfaction of the Engineer.

2. General Requirements

a. The majority of small trees and shrubs salvaged must not exceed five (5) feet in height.

3. Methodology

a. Removal

i. A straight-edged spade must be used to manually remove small trees, shrubs, and herbaceous plants.

ii. A spade must be plunged straight down around the material to be removed. For shrubs and herbaceous plant material under three (3) feet tall, the cut must be made at least eight (8) inches from stem. The cut around shrub and herbaceous plant material taller than three (3) feet must be a minimum of one (1) foot. For small trees, the size and weight of root balls must be in accordance with Table 4.8 "Size and Weight of Earth Ball Required to Transplant Wild Stock" in the latest edition of the New York State Standards and Specifications for Erosion and Sediment Control. Root ball depths are to carry the following ratios: For root balls with diameters less than 20 inches, the depth of the root ball must not be less than 65% of the diameter of the ball; for root balls with diameter of 20 inches and greater, the depth of the root ball must not be less than 60% of the diameter of the ball.

iii. The spade must then be carefully worked under the roots. If a large root is encountered, it must be cut cleanly with sharp pruning shears or loppers. All plants must be dug to retain as many fibrous roots as possible and the roots must be contained securely in place. Small plants may be lifted out of ground keeping root ball and associated soil intact and placed in temporary containers of appropriate size or balled and burlapped.

iv. Small trees and shrubs larger than three (3) feet must be removed in the following manner. Two people must be used for removing such material. An appropriately sized piece of burlap must be placed alongside the plant material to be removed. The spade head must be placed under the root ball. While one person pries the plant up with the spade handle, the other must grasp the plant at the base of the stem. Using the spade to support the root ball, the plant must be lifted out of the hole and placed on the burlap. An excavator may be used to assist in the removal. The corners of the burlap must be pulled up around the root ball and natural twine (not nylon or plastic) must be used to tie it around the root ball. The burlap and root ball must be immediately watered. Roots must not be allowed to become dry or be exposed to air.

v. If plant material is to be stored prior to planting, the material must be properly balled or containerized as per American Association of Nurserymen Standards and toed into the soil in an appropriate predetermined location. The soil within the containers must be covered with wet mulch, wood chips or leaves and kept moist. Temporary storage must be in suitably sized containers or, where appropriate, as burlap wrapped balls. Root balls of trees and shrubs must be wrapped with wet burlap to prevent soil from separating from roots and from root desiccation. The storage site must be approved by the Engineer and have the same exposure and hydrology as the donor site.

b. Storage

i. Under ideal circumstances, salvaged material must be transplanted immediately to the donor site. If storage is necessary and approved by the Engineer, salvaged plants may be stored temporarily at a designated storage location, properly heeled in and watered until such time that they are used for re-establishment.

ii. The temporary storage area must be scraped to remove weeds and weed seeds before plants are stored and must have the same soil type, exposure, and hydrological regime as the donor site. The temporary storage area must be completely fenced with plastic snow fence or welded wire fence. The top two (2) inches of the balled or containerized salvaged material as well as spaces between the containers must be filled with wet mulch, wood chips or leaves. The salvaged plants must be during the dormant season.

iii. A capillary bed must be constructed for wetland plant storage at the discretion of the Engineer. The frame of the capillary bed must be one (1) foot deep and four (4) feet wide by ten (10) feet long. The frame must be lined with heavy plastic (>3 mil) and filled with approved soil or mulch. Holes must be punched in the plastic liner in each corner six (6) inches from the bottom of the frame. This will prevent the entire bed from filling with water. At least two (2) inches of water must be maintained in the capillary bed at all times.

iv. Plants must be potted prior to placement within the capillary bed as this will reduce the number of times the roots will need to be disturbed. Potted plants are to be placed in the bed and surrounded and partially covered with soil or mulch. Plants must not be stored for more than one (1) year.

c. Small Tree, Shrub and Herbaceous Plant Final Planting

i. After final planting, all small trees and shrubs salvaged must be pruned and watered in accordance with standards set forth by the American Standard for Nursery Stock.

ii. All small trees, shrubs and herbaceous plant planting operations shall be in accordance with Specification 7.401 Landscaping for Terrestrial Zone and Wetland Zone.

C. Whole Sod Salvage Operations

1. Description:

a. Removal of whole sods from all designated donor wetlands, including perennial deciduous grasses, native moss mats, sedge and fern tussocks, woody hummocks, whole shrubs and small trees and associated herbaceous vegetation.

2. General Requirements:

a. Whole sod placement must be done under the guidance of a Restoration Specialist with experience in sod salvage. The salvaged sod must be transported and placed into the created wetland over previously-placed organic sediments or over mineral soils, depending on the depth of sod. Sods must be cut, transported and placed such that the sods and plants remain substantially intact and plants and roots maintain their accustomed vertical and horizontal orientations. Whole sod cutting must be capable of transporting trees up to two (2) inches in caliper and ten (10) feet in height.

c. Salvage and placement of whole sod and organic soils must occur in tandem so that all salvage equipment can work on firm mineral soil and there is no unnecessary treading of organic soil, sods or plant material. Sods must not be stored without the approval of the Engineer and requires the use of specialized storage equipment.

3. Methodology:

a. A rank of whole sod must be cut and removed from the edge of the donor site. A rank of whole sod must have a depth of ten (10) inches unless approved otherwise the Engineer. If the sod is of the proper thickness, it may be placed directly into the receptor site. The sod must otherwise be set aside

temporarily until the receiving subgrades are properly prepared.

b. If underlying organic soils are to be salvaged from donor sites, it must be excavated and transported to the receiving wetland in such a way as to prevent unnecessary treading by heavy equipment.

c. If both underlying organic (A horizon) soils and mineral (B horizon) soils are to be salvaged from donor sites, they must be excavated and stockpiled separately, and transported and placed into the receptor site in separate lifts, as they existed in-situ. The soil horizons must be tamped, not compacted in place. Soils must be excavated and transported to the receptor site in such a way as to prevent unnecessary treading by heavy equipment.

d. Salvaged whole sods must be carefully placed on top of those sediments or elsewhere on mineral soils.

e. Another rank of whole sods must be cut and removed from the donor site.

F. All organic sediments underlying the removed rank of sods must be excavated, transported, distributed and then salvaged. Whole sods must be placed on top.

g. This procedure must be repeated until all usable whole sods have been salvaged to be directed by the Restoration Specialist and approved by the Engineer. Sods must be deliberately spaced apart as well as contiguously to imitate the irregularity of other existing wetlands in the area. The Restoration Specialist must inspect local "reference" wetlands prior to placement of whole sods to better understand the desired pattern of layout.

h. Sod placement must be true to elevation as shown on the plans. Target elevations must be corrected by the Contractor if actual site conditions appear to differ from projected site conditions during and after excavation.

D. Measurement and Payment

The quantity to be measured for payment under this section must be the total number of hours necessary for one crew to complete the plant salvage operation. The crew must consist of a minimum of two workers.

The contract price per hour for Plant Salvage must be as indicated on the BID SCHEDULE OF PRICES Item No. BMP-7.310-B. The unit price bid must include the costs for all labor, materials, equipment and incidental expenses necessary or required to complete the work in accordance with the plans and specifications to the satisfaction of the Engineer.

7.311 CONSTRUCTED WETLAND TREATMENT
NO TEXT IN THIS SECTION

7.312 DEMOLITION AND SITE CLEARING
NO TEXT IN THIS SECTION

7.313 REMOVAL OF POND SEDIMENTS
NO TEXT IN THIS SECTION

7.314 DISPOSAL OF OUTFALL CHAMBER SEDIMENTS
NO TEXT IN THIS SECTION

7.315 GREENBELT/RICHMOND CREEK RESTORATION
NO TEXT IN THIS SECTION

7.316 GREENBELT/RICHMOND CREEK RESTORATION ALLOTMENT
NO TEXT IN THIS SECTION

7.317 SOIL SAMPLING AND DISPOSAL

Soil sampling and disposal within the project limits must conform to the requirements of the NYCDDC Specifications for Handling, Transportation and Disposal of Nonhazardous and Potentially Hazardous Contaminated Materials. This applies to all areas of excavation and is not limited to areas below pavement. All excavation outside the public right of way shall be compared to NYSDEC Subpart 375-6 protection of ecological resources Soil Cleanup Objectives (SCOs).

Measurement and payment for soil sampling and disposal of hazardous and contaminated materials must be in accordance with Hazardous Materials Items 8.01 C1 Handling, Transportation & Disposal of Non-Hazardous Contaminated Soil, 8.01 C2 Sampling & Testing of Contaminated/Potentially Hazardous Soil for Disposal Parameters, 8.01 H Handling, Transportation & Disposal of Hazardous Soils, 8.01 S Health & Safety, 8.01 W1 Removal, Treatment & Disposal/Discharge of Water, and 8.01 W2 Treatment and Disposal/Discharge of Contaminated Water Sampling and Testing of Contaminated Water.

7.400 LANDSCAPING AND RESTORATION - WORK INCLUDED

Under landscaping and restoration work, the Contractor must provide labor, materials, tools and equipment necessary to complete the execution of the work in complete accordance with the Specifications and all Contract Drawings. The work must include items of work specified under the following sections.

Section Number	Title
7.401	No Text
7.402	No Text
7.403	No Text
7.404-A	No Text
7.405	No Text
7.406	No Text
7.407-A	No Text
7.407-B	No Text
7.408-B	No Text
7.409	No Text
7.410	No Text
7.411	No Text
7.4.12	No Text
7.413	No Text
7.414	No Text
7.415-A	No Text
7.416	No Text
7.417	No Text
7.418	No Text
7.419	No Text

7.401 LANDSCAPING FOR TERRESTRIAL ZONE AND WETLAND ZONE
NO TEXT IN THIS SECTION

7.402 SOD
NO TEXT IN THIS SECTION

7.403 TOPSOIL FOR RESTORED AREA
NO TEXT IN THIS SECTION

7.404-A RESTORATION SPECILIAST (CONSTRUCTION MONITOR)
NO TEXT IN THIS SECTION

7.405 VECTOR, PEST AND WILDLIFE CONTROL
NO TEXT IN THIS SECTION

7.406 WOOD CHIPS
NO TEXT IN THIS SECTION

7.407–A EROSION CONTROL MAT – STRAW
NO TEXT IN THIS SECTION

7.407–B EROSION CONTROL MAT – CURLED WOOD OR COCONUT FIBER
NO TEXT IN THIS SECTION

7.408-B HERBICIDE APPLICATION
NO TEXT IN THIS SECTION

7.409 MYCORRHIZAL INOCULANTS
NO TEXT IN THIS SECTION

7.410 PLANT PROTECTION FENCE
NO TEXT IN THIS SECTION

7.411 WATERING AND WEEDING DURING GUARANTEE PERIOD
NO TEXT IN THIS SECTION

7.412 SLOPE STABILIZATION
NO TEXT IN THIS SECTION

7.413 TEMPORARY GOOSE EXCLUSION FENCE
NO TEXT IN THIS SECTION

7.414 BMP AS-BUILT PLANS
NO TEXT IN THIS SECTION

7.415-A WILDLIFE STRUCTURES
NO TEXT IN THIS SECTION

7.416 GALVINIZED CHICKEN WIRE
NO TEXT IN THIS SECTION

7.417 DEBRIS EXCLUSION FENCE
NO TEXT IN THIS SECTION

7.418 CLEAN SAND FOR RESTORED AREA
NO TEXT IN THIS SECTION

7.419 TREE AND ROOT PRUNING
NO TEXT IN THIS SECTION

7.500 SOIL EROSION AND SEDIMENTATION CONTROL MEASURES

Under soil erosion and sedimentation control work, the Contractor must provide all labor, materials, tools and equipment necessary to complete the execution of the work in complete accordance with the Specifications and all Contract Drawings. All Soil Erosion and Sedimentation Control work must be done in conformance with and subject to the renewed State Pollutant Discharge Elimination System (SPDES) General Permits for Discharges Stormwater from Construction Activity, GP-0-20-001, and the latest edition of the New York State Standards and Specifications for Erosion and Sediment Control, 2016, published by the New York State Department of Environmental Conservation, including, but not limited to, the following methods of erosion and sedimentation control.

1. Slopes left exposed will, within 30 working days of completion of any phase of grading, be planted or otherwise provided with ground cover device, or structures sufficient to restrain erosion.
2. A ground cover sufficient to restrain erosion must be planted or otherwise provided within 15 working days on that portion of the tract (disturbed area) upon which further active construction is not being undertaken.

The Contractor must submit for approval by the Engineer and NYSDEC, a written Erosion and Sedimentation Control Plan, prepared by a Certified Professional in Erosion and Sediment Control (CPESC), who is a Professional Engineer (P.E.) or under the supervision of a P.E. The Erosion and Sediment Control Plan must be signed and sealed by that CPESC and/or the supervising P.E. The Plan must comply with all conditions of all applicable permits issued by NYSDEC.

The Erosion and Sedimentation Control Plan must conform to the guidelines as set forth in the latest edition of the New York State Standards and Specifications for Erosion and Sediment Control, 2016 and the Contractor must implement the followings:

- No stockpiling of excavated material would be allowed in amanner or location that would permit erosion and its subsequent sedimentation in wetlands or other natural areas.
- No storage of soil must be permitted within the Contract limits. Soil is deemed to be for this requirement any sediment including material such as topsoil fill, sand, any excavated material, boulders, stones, cold patch, etc.
- Storm sewers will be installed in a sequence and manner that reduces the time during which the tops of excavated areas would be exposed and vulnerable to erosion.
- At the end of each day's work, the street where sewers are being installed will be cleaned and swept to reduce the amount of soil that could potentially impact downstream areas as sediment. The Contractor must be required to have a street sweeper on the site.
- Use truck tracking pads at the construction access locations to remove sediment from the tires of the trucks and other construction equipment prior to driving on the adjacent streets.
- Utilize sediment basins, sediment traps and/or sediment filters in the erosion control plan to capture sediment form run-off and from water produced by dewatering operations.
- Use portable sediment tanks to remove sediment from water generated by dewatering operations. All water from dewatering must be treated before discharge into any surface water bodies, unless the turbidity of the effluent is less than the ambient level of the receiving water body as measured

by the turbidity meter in standard units (i.e. NTU's).

- The Contractor must supply all portable equipment.
- Use construction limiting fence, and silt fence as shown on Contract Drawings, unless otherwise directed by the Engineer.
- Schedule work in wet areas, such as the mitigation site, during relatively dry summer months.
- Employ water diversions to direct the stream away from the area being worked on, so as to create drier conditions for in-stream work.
- Use temporary pumping sump to control water level at site.
- Prior to the start of construction activities, such as sewer installation, inspect all erosion control measures and continually monitor them, especially after each storm event.
- If the Contractor uses dewatering methods which produce effluent discharges, the Contractor must monitor each discharge effluent and receiving water body. Discharges must not cause substantial visible contrast to the natural condition in any receiving water body. A

meter which records turbidity in standard units (i.e. NTUs) must be utilized to establish ambient conditions in each water prior to discharge. If any monitored turbidity level exceeds the ambient level of the receiving water body, the Contractor must insure (e.g., by reducing the flow rate or otherwise adjusting the dewatering system) that no substantial visible contrast to the natural condition in the receiving water body occurs. The action(s) taken, or the decision not to take any action, must be recorded in the monitors log.

The Contractor will not receive any payment for the preparation of the Erosion and Sedimentation Control Plan. Installation of the Erosion and Sedimentation features and maintenance of them will result in payment for their respective items as described in Section 7.501 through 7.517. The work must take place at the mitigation and outfall site only and is not payment for street work or the installation of sewers; with the exception of the Erosion and Sediment Control Licensed Professional (Section 7.404-B). The Erosion and Sediment Control Licensed Professional must oversee construction and the installation of the sewers for the entire project.

The work must include items of work specified under the following sections:

Section Number	Title
7.501	Maintenance of Erosion Control Measures
7.502	No Text
7.503-A	No Text
7.504-A	No Text
7.506	No Text
7.507	No Text
7.509-A	No Text
7.510	No Text
7.511	No Text
7.512	No Text
7.516	No Text
7.517	No Text

7.501 MAINTENANCE OF EROSION CONTROL MEASURES

Maintenance/repair of the erosion and sediment control measures must be performed by the Contractor only as directed by the Engineer.

When, in the judgment of the Engineer and NYCDDC Construction Monitor, the soil erosion control measures have deteriorated to a point of not functioning adequately because of storm events, the Contractor must be notified to make the necessary repairs.

If the Engineer deems that the erosion control device was not adequately installed in the first place, repair of such a device must be the sole responsibility of the Contractor.

Damage to the erosion control measures caused by the construction activity of the Contractor is the responsibility of the Contractor. If the Engineer determines that the damage is the result of the Contractor's construction activity, then the Engineer must order that the devices are repaired. The Contractor must make the repairs at its own expense.

In the event that the erosion control measures are damaged as a result of vandalism by the general public, the Contractor must notify its insurance company and put forth a claim for remuneration to the said damage.

No separate payment will be made for this work of the specification. All costs must be included in the various Contract Items of this Contract.

7.502 CONSTRUCTION LIMIT FENCE
NO TEXT IN THIS SECTION

7.503 STAKED STRAW BALES
NO TEXT IN THIS SECTION

7.504-A SILT FENCE
NO TEXT IN THIS SECTION

7.505 SAND BAGS
NO TEXT IN THIS SECTION

7.506 SEDIMENT TRAP WITH FILTER
NO TEXT IN THIS SECTION

7.507 SEDIMENT FILTER
NO TEXT IN THIS SECTION

7.508 SEDIMENT BASIN
NO TEXT IN THIS SECTION

7.509-A STABILIZED CONSTRUCTION ENTRANCE
NO TEXT IN THIS SECTION

7.510 PORTABLR SEDIMENT TANK
NO TEXT IN THIS SECTON

7.511 STORM DRAIN - INLET PROTECTION MEASURES
NO TEXT IN THIS SECTION

7.512 DIRTBAG
NO TEXT IN THIS SECTION

7.510 SURFACE WATER COLLECTOR
NO TEXT IN THIS SECTION

7.511 TEMPORARY WATER BARRIER
NO TEXT IN THIS SECTION

7.512 JERSEY BARRIER
NO TEXT IN THIS SECTION

7.513 TURBIDITY CURTAIN
NO TEXT IN THIS SECTION

JB-PAGES (5.0)

JOINT BID

NOTICE

THE PAGES CONTAINED IN THIS JOINT BID (JB-PAGES) REPRESENT ADDITIONAL CONTRACT REQUIREMENTS APPLYING TO WORK PERFORMED IN THE PRESENCE OF PRIVATELY OWNED UTILITY FACILITIES.

(NO TEXT ON THIS PAGE)

JB-PAGES TABLE OF CONTENTS

SECTION A. JOINT BID CONTRACT REQUIREMENTS AND STANDARD SPECIFICATIONS

SECTION B. NYC UTILITY PRICE LIST

SECTION C. JOINT BID SPECIAL SPECIFICATIONS

SECTION D. PRIVATE UTILITIES PARTICIPATING LIST

SECTION E. PRIVATE UTILITIES SCOPE OF WORK

SECTION F. PRIVATE UTILITIES TEST PITS AND SKETCHES

SECTION G. PRIVATE UTILITY DRAWING LIST

SECTION A – JOINT BID REQUIREMENTS AND STANDARD SPECIFICATIONS

SECTION A.1 - Requirements for Joint Bid Work

A. Definitions. Additional terms are defined in Standard Construction Contract.

1. "Business Days" will mean Monday through Friday, excluding holidays.

2. "City Facility(ies)" will mean any facility owned by the City, including, but not limited to, roadways, streets, highways, parkways and other thoroughfares, bridges, sewers, culverts, catch basins, chutes and water mains.

3. "Joint Bid Project(s)" will mean a construction project that the City and Utilities agree will be awarded in accordance with applicable law and will include both City Facilities and Utility Facilities.

4. "Pre-engineer" or "Pre-engineering" will mean a process undertaken by the Utilities on all Joint Bid Projects whereby the Utilities will determine and mark-out current Utility Facilities, and design the location and/or re-location of Utility Facilities in a manner that is to the extent practicable, efficient and cost-effective for both the City and the Utilities to avoid or ameliorate disturbances to the City Facilities and the Utilities Facilities, and in which the City and Utility participate in prior to the award of a Joint Bid Project contract.

5. "Price List Work" will mean work to be performed under the Price List items, excluding JB Specialty Items and Bid Items.

6. "Public Work" will mean the following: (a) construction, reconstruction, installation, alteration, maintenance, repair, grading, re-grading, regulating and improvement of roadways, highways, streets, parkways and other thoroughfares, and bridges and (b) similarly for sewers, culverts, catch basins, chutes and water mains.

7. "Shared Items" will mean the bid items in the City's construction contract in which the total cost will be paid for by the City and the Utilities in accordance with their share as mutually agreed upon.

8. "Specialty Contractor" will mean a contractor provided and paid for by the Utility, which may include the Utilities' in-house field forces.

9. "Specific Public Work Items" will mean a detailed set of specifications prepared by the City based on the City's engineering, design and plans that will represent the Public Work portion of the Joint Bid Project and it is these unit price items and quantities related to the Public Work that will be bid upon and evaluated by the City for the Public Work portion of the City's construction contract.

10. "Specific Shared Items" will mean a detailed set of specifications prepared by the City based on the City's engineering, design and plans that will represent the Shared Items portion of the Joint Bid Project and it is these unit prices and quantities related to Shared Items that will be bid upon and evaluated by the City for the Shared Items portion of the City's construction contract.

11. "Specific Utility Work Items" will mean a detailed set of specifications prepared by the Utilities based on the Utility's Pre-engineering that will represent the Utility Work

portion of the Joint Bid Project. The Specific Utility Work Items are composed of the Joint Bid Fixed Sum Items and JB Specialty Items, as described in Section A.2 below.

12. "Utility Facility(ies)" will mean the property owned by the Utilities, including, but not limited to, pipes, poles, conduits, wires, lines and other facilities, structures or property of the Utilities that may be below ground, at ground-level or above ground, that could disturb or interfere with the Public Work.

13. "Utility" or "Utilities" will mean the utility entities participating in this Joint Bid Project.

14. "Utility Work" will mean such work as is required to be performed by the Contractor during the performance of Public Work, as defined herein, in order to maintain, protect, support, shift, alter, relocate, remove, construct, and/or replace Utility Facilities at the Utilities' expense.

B. The City is bidding jointly this Contract. The City has combined its Public Work and Utility Work into one bid contract package. All prospective bidders should be alerted to the fact that the City prepared all specifications, drawings, and all other necessary contract documents for the Public Work and Utility Work.

C. The City has prepared contract documents which include specifications, drawings and all other necessary contract documents for the Public Work and Utility Work. The bid items, specifications, and estimated quantities have been designed to fully compensate the Contractor for its costs to perform the Public Work and Utility Work.

D. The Contractor agrees that its bid prices and the NYC Utility Price List prices for the Public Work and Utility Work will include all incremental costs and/ or additional compensation for performing Public Work and Utility Work including: coordination of its work with the Utilities, loss of productivity and efficiency, idle time, delays (including any delays occasioned by negotiation of a contract change), change in operations, mobilization, demobilization, remobilization, added cost or expense, loss of profit, other damages or impact costs that may be suffered by the Contractor because of direct or indirect obstructions due to the presence of Utility Facilities, such as conduits, ducts or duct banks containing conductors for live and/or abandoned electric, telephone, cable TV, any type of communication cables, "Non Cost Sharing" gas mains and services, steam mains, and various non-hazardous encasement materials or utility structures located within the Public Work project area.

E. In the bid solicitation documents, the City has provided estimated quantities for both Specific Public Work Items, Specific Utility Work Items, and Specific Shared Items. Bidders are required to bid a unit price on all Work in the Bid Schedules. For the purposes of identifying the lowest responsive and responsible bidder, a bidder's unit prices bid must be calculated based on all Work, which includes the combined Specific Public Work Items, the Specific Utility Work Items, and the Specific Shared Items.

F. If the Utility determines that the Contractor is not qualified or best suited to perform a specific scope of Utility Work, the Utility has the right to utilize their Specialty Contractors. If the Contractor claims that delays were caused by a Utility for failure to supply and/or provide Specialty Contractors in a timely manner, then the Contractor may bring a claim against the Utility. To the extent the Contractor claims that a delay was caused by a Utility, the Contractor will be limited to bringing such legal action in a court of law and may not seek arbitration over any delay claims or delay-related claims. If the Contractor and Utility initiate a legal action

against each other, this legal action will be outside the jurisdiction of the City's Contract Dispute Resolution Board process and the City will not be a party in the litigation process. Neither the Contractor nor the Utility may bring a delay claim against the City through either a court of law or the City's Contract Dispute Resolution Board process. Refer to the Standard Construction Contract for additional details. The Contractor must allow the Utility's Specialty Contractors to have reasonable access to the work area with prior notice and may, with the exception of the Utilities' in-house field forces, condition such access on proof of insurance acceptable to the Engineer.

G. The Lower Manhattan Joint Bid Agreement, dated June 6, 2006, shall not apply to this project. The Contractor agrees that the Utilities are third-party beneficiaries of the contract for a Joint Bid Project, and that the Utilities shall be entitled to rely upon and enforce any and all terms and conditions of the Contract for a Joint Bid Project as it pertains to the Contractor and the performance of the Shared Items and Utility Work.

SECTION A.2 – Price List Method

A. This Contract has been prepared using the Price List Method. The Price List Method consists of all of the following.

1. The Contractor bids on the items listed in the Bid Schedule ("Bid Items")
2. The Contractor agrees that the prices listed for items in the Price List ("PL Items") represent full and complete compensation for the Specific Utility Work Items listed in the NYC Utility Price List. The NYC Utility Price List prices are fixed for the duration of the Contract, regardless of any time extensions. Overtime costs incurred during the performance of the Price List Work are reimbursable in accordance with Section G.2 below.
3. The Bid Schedule contains Joint Bid Fixed Sum Items ("JB FS Items") that will be used for payment of Utility Work. These items may include:

Item No.	Description	Unit
JB-FS-AL	ALTICE JB FIXED SUM	F.S.
JB-FS-CC	CROWN CASTLE JB FIXED SUM	F.S.
JB-FS-CE	CON EDISON JB FIXED SUM	F.S.
JB-FS-EX	EXTNET JB FIXED SUM	F.S.
JB-FS-NG	NATIONAL GRID JB FIXED SUM	F.S.
JB-FS-LI	LIPA-PSEG JB FIXED SUM	F.S.
JB-FS-RC	RCN JB FIXED SUM	F.S.
JB-FS-SP	CHARTER-SPECTRUM-TW JB FIXED SUM	F.S.
JB-FS-VZ	ECS-VERIZON JB FIXED SUM	F.S.

4. If this Contract contains Specialty JB items that are not covered by the NYC Utility Price List ("JB Specialty Items"), the Contractor will bid on the JB Special items listed in the separate JB Specialty Item Bid Schedule. For clarity, standard City items that are not used in the Bid Schedule may be used as JB Specialty Items.

B. Any costs that are to be paid for by the Utility will be paid according to the JB FS Items, whether the work is a Bid Item, PL Item, or JB Specialty Item.

C. There is no restriction as to which items may be used to pay for Utility Work – any Bid Item, PL Item (regardless of the utility), or JB Specialty Item (regardless of the utility) may be used. Utility may use any applicable item from the Bid Items, the PL Items, or the JB Specialty Items, whether for anticipated or unanticipated Utility work, regardless of whether the item is considered or defined as a City item, such Utility's item, or another Utility's item. In consultation with the Utilities, the Engineer is responsible for verifying the applicability of items proposed for use by the Utilities in accordance with any agreement in effect between the City and the Utilities. The arbitrator(s) under Section A.4 shall have the sole and exclusive authority to determine which items are applicable should there be a dispute between any Utility and the Contractor on such issue.

D. Quantities of work to be paid for under the JB FS Items must be tracked separately from the quantities of work paid for under the Bid Items. The method and format of separate tracking must be submitted to the Engineer for review and processing.

E. Overruns:

1. Bid Items: Quantities of Bid Items paid for according to the JB FS Items are not overruns for the purpose of Standard Construction Contract Article 26.1. However, if

the City negotiates a new unit price for an item per Article 26.1, that new unit price will also be used for payment under the JB FS Items.

2. JB FS Items: The City will not pay the Contractor directly when there is an overrun of the JB FS Items, except when the City's RE determines that such overruns are caused by field conditions impacting planned City work, or scope of work changes. Overruns not paid by City will be paid directly to Contractor by the Utility at the established unit rate for the Bid Items, the PL Items, or the JB Specialty Items and according to the same retainage requirements as applicable between the City and the Contractor. In order to facilitate the shared cost reconciliation between the City and the Utilities, the Contractor must provide details of all payments from the Utilities. These details must include the items, quantities, and amounts that are covered by the payment.

   In the event that funds are insufficient in the Utility budget code to continue payments under the JB FS Item, the Engineer may determine that all future payments under the JB FS Item are overruns, and will be paid directly to the Contractor by the Utility as specified in the paragraph above.

F. Extra Work:

1. If during construction the Contractor encounters utility facilities interferences or utility scope of work that it believes is not covered by the Contract, then the Contractor must immediately notify the City and the Utility in writing, describing the nature and location of the extra work in question. The Utility then has five (5) business days to investigate the conditions and then either:

   i. Advise the Contractor and the City in writing that no interference with its facilities exists at the location in question, and hence that the Contractor may proceed with City work without providing for any impact from Company facilities;

   ii. Advise the Contractor and the City in writing that the Contract items provide for the scope of work encountered, specifying the exact unit items that cover the work;

   iii. Advise the Contractor and the City in writing that it intends to perform the necessary utility work with Utility forces or with Specialty Contractors, but not limited to, relocating its facility out of the way of the proposed City work. In this case, the Utility must provide a written schedule for the performance of the utility work it proposes to perform, which shall be subject to approval by the City based on its impact to the Contractor's currently approved progress schedule. Upon approval of the Utility's schedule by the City, the Contractor must provide access to the worksite to the Utility and/or any Specialty Contractors hired by it to perform this utility work. If necessary, the City may grant a contract time extension for delays caused by the performance of such utility work by the Utility.

   iv. Reasonably specify in writing the scope of work to be performed by the Contractor on behalf of the Company that is not covered under the Contract, including, but not limited to, relocating, supporting, and/or protecting the Utility's facilities, and/or shifting the City facility if approved by the Engineer, and/or otherwise changing its operations to work in the presence of the Utility's facilities. Should the Utility elect this option, it must adequately define and provide an initial price offer for the work required to be performed.

2. For items not included in the Bid Items, PL Items, or JB Specialty Items ("Utility Extra Work"), the Utility and the Contractor will directly negotiate unit rates, lump sum amounts, or agree to payment on a Time and Material Basis. In this case, the requirements above for overruns apply for payment. The Utility may select whether the Extra Work will be paid under the appropriate JB FS Item or paid directly from the Utility, unless such payment would cause an overrun of the JB FS Item and the Extra Work will be paid directly from the Utility. In this case, the requirements above for overruns apply for payment. If Extra Work agreed to on a Time and Material Basis is not calculated in accordance with Article 26 of the Standard Construction Contract, this Extra Work must be paid directly to the Contractor by the Utility.

   In order to facilitate the shared cost reconciliation between the City and the Utilities, the Contractor must provide details of all payments from the Utilities. These details must include the items, quantities, and amounts that are covered by the payment.

G. Overtime on Utility Work:

1. Acceleration of Utility Work

   The Contractor will be paid under this article for Utility Work deemed necessary by the Commissioner (in consultation with the Utility) to accelerate Specific Utility Work Items during critical periods. Such accelerated Utility Work includes:

   A. 100% of the premium portions of overtime pay for working during non-scheduled work hours which must be defined as those hours of work outside the permissible hours stated in the original contract OCMC Traffic Stipulations; or,

   B. The premium portion of overtime pay for overtime actually worked beyond the 40-hour work week but within the permissible hours of work stated in the original contract OCMC Traffic Stipulations; or,

   C. All other incidental expenditures caused by modifications of project site regulations or administrative requirements ordered by the Commissioner (in consultation with the Utility) that result in additional costs to perform Contract Work as specified.

   Such accelerated Utility Work must be paid for under the appropriate JB FS Item in accordance with the requirements of Articles 25 and 26 of the Standard Construction Contract.

   Payment made under this article must cover the cost of all labor, materials, plant, equipment, insurance, and incidentals necessary to accelerate the work as ordered by the Commissioner (in consultation with the Utility).

   This article may only be applied to Utility Work performed prior to Substantial Completion of the Project.

2. Overtime on Price List Work

   When Price List Work is performed off shift or on weekends, 100% of the premium portions of overtime pay will be paid under this Section.

   For clarity, overtime pay on Price List Work performed during the hours stated in the OCMC Traffic Stipulations included in the solicitation is eligible for reimbursement under this article.

Such overtime costs will be paid under the appropriate JB FS Item in accordance with the requirements of Articles 25 and 26 of the Standard Construction Contract, with no compensation for overhead and profit.

Payment made under this Section will cover the cost of all labor, materials, plant, equipment, insurance, and incidentals necessary to accelerate the work as ordered by the Commissioner (in consultation with the Utility).

This article may only be applied to Utility Work performed prior to Substantial Completion of the Project.

SECTION A.3 - Standard Specifications for Joint Bid Work

A. The Contractor is be responsible for performing work in accordance with the Private Utilities reference document called "JOINT-BIDDING SPECIFICATIONS AND SKETCHES FOR LOWER MANHATTAN", dated August 1, 2005, as amended below and in Section C.

B. Refer to the Private Utility reference document called "JOINT-BIDDING SPECIFICATIONS AND SKETCHES FOR LOWER MANHATTAN", Specification for JB 450, pages 56, 57, and 58;

Note: Items under JB 450 are task driven operation items and are not based on crew size. These items are divided into three unique types, each of which provides a description of applicability and typical use. The "Method of Measurement", on page 57, states that "The actual crew performing the operation will not be considered by the facility operator, in consultation with the Resident Engineer, when determining the applicable Unit Item Type, which will be only as per the task performed."

C. Refer to the Private Utility reference document called "JOINT-BIDDING SPECIFICATIONS AND SKETCHES FOR LOWER MANHATTAN", Specification for JB 225, page 10, Article A. Description;

Delete the last four lines of text in their entirety, beginning with the words: "accordance with Specification under Addendum #1, . . .";

Substitute the following revised text: "accordance with Specification Section 7.18 – Controlled Low Strength Material (CLSM), in the Standard Highway Specification. All backfill within the maximum excavation limits shown in Sketch No. JB 225 will be of controlled low strength material (CLSM) in compliance with requirements of Section 7.18, and its cost will be deemed included in this item."

D. Refer to the Private Utility reference document called "JOINT-BIDDING SPECIFICATIONS AND SKETCHES FOR LOWER MANHATTAN", Specification for JB 225, page 10, Article B. Materials;

Delete the first sentence in its entirety, beginning with the words: "Furnish Controlled Low Strength Material fill or backfill . . .";Substitute the following revised sentence: "Furnish Controlled Low Strength Material fill or backfill as required and specified in Section 7.18 – Controlled Low Strength Material (CLSM), of the Standard Highway Specification."

E. Refer to the Private Utility reference document called "JOINT-BIDDING SPECIFICATIONS AND SKETCHES FOR LOWER MANHATTAN", Specification for JB 226, page 12, Article A. Description;

Delete the last five lines of text in their entirety, beginning with the words: "accordance with Specification under Addendum #1, . . .";

Substitute the following revised text: "accordance with Specification Section 7.18 – Controlled Low Strength Material (CLSM), in the Standard Highway Specification. All backfill within the maximum excavation limits shown in Sketch No. JB 225 will be of controlled low strength material (CLSM) backfill in compliance with Section 7.18 in the Standard Highway Specifications, and its cost will be deemed included in this item."

F. Refer to the Private Utility reference document called "JOINT-BIDDING SPECIFICATIONS AND SKETCHES FOR LOWER MANHATTAN", Specification for JB 226, page 12, Article B. Materials;

   Delete the first sentence in its entirety, beginning with the words: "Furnish controlled low strength material fill or backfill . . .";

   Substitute the following revised sentence: "Furnish controlled low strength material fill or backfill as required and specified in Section 7.18 – Controlled Low Strength Material (CLSM), of the Standard Highway Specification."

G. Section JB 350 is not applicable and deemed deleted. The Contractor will not be paid separately to modify means and methods around overhead utilities; those costs must be included in the prices bid for all work.

H. Section JB 900 is not applicable and deemed deleted.

SECTION A.4 – Resolution of Certain Disputes Arising Between the Contractor and the Utilities (Appendix "JB-A")

A.1.0 Applicability. In recognition of the usefulness of a process of alternative dispute resolution for its efficiency, speed and cost-effectiveness in managing conflict and settling disputes that may arise under, or by virtue of, these special provisions of Joint Bidding, the City and Utilities have agreed to the procedures set forth in this **Appendix "JB-A."** Accordingly, this **Appendix "JB-A"** will apply to disputes between the Contractor and the Utilities that arise in relation to this Contract, except for those disputes between the Contractor and the Utilities relating to delay claims, as described in Section A.1, Article F of these JB-Pages.

A.1.1 The Utilities' Responsibilities. If the Utility identifies an issue in the payment requisition for the Utility Work, the Utility will immediately notify the City and the Contractor by a written notice. After sending such written notice, the Utility agrees to meet with the Contractor to resolve the issue. If the issue cannot be resolved, then the Utility or the Contractor will seek to resolve the issue through the arbitration process as set forth herein.

A.1.2 No Extra Or Disputed Work. If the Utility determines that the alleged extra Utility Work or the disputed Utility Work is part of the City's Contract Documents and denies the Contractor's claim or request for a change order, then after receiving the Utility's written response, the Contractor will either accept the Utility's determination or immediately seek to have the issue resolved through the arbitration process as set forth herein.

A.1.3 Extra Work. If the Utility determines that there is extra Utility Work, the extra Utility Work will be paid for based on the contract rates as set forth in A.2 of these JB-Pages. If all or a portion of the agreed upon extra Utility Work items are not in the contract rates, then the Utility and the Contractor will negotiate the cost of the extra Utility Work with each other with the understanding that the performance of Public and Utility Work will continue during all negotiations and discussions. If the parties reach an agreement on cost for the extra Utility Work, then the Contractor and the Utility will submit to the City's RE a copy of the agreed upon prices together with supporting documentation. If the parties do not reach an agreement on cost for the extra Utility Work, then the parties will immediately arbitrate the issue as set forth herein.

A.2.0 Joint Bid Projects. Disputes that arise under this Appendix, as described above in paragraph A.1.0, will be resolved in accordance with the provisions of this **Appendix "JB-A"**. **Appendix "JB-A"** will NOT apply to any disputes between the City and the Contractor, or any disputes between the City and the Utilities. Since the arbitration of Utility interference disputes, as described in Article A.1.0 above, is a matter solely between the Utilities and the Contractor, and since the parties agree to reduce or eliminate any costs to the City relating to any arbitration pursuant to this **Appendix "JB-A"**, the parties hereby agree that:

A.2.1 The City will not be a party in the arbitration process;

A.2.2 Neither the Contractor nor the Utilities will call as a witness in the arbitration process any City employee, agent or consultant, including the City's RE, his staff or City inspection personnel;

A.2.3 The City will not be responsible for any costs, fees or monetary awards or price adjustments associated in any way with the arbitration process described in this **Appendix "JB-A"**; and

A.2.4 Notwithstanding Articles A.2.1 and A.2.2, the City's obligation to furnish information to the parties will be limited to those requests as set forth under the New York State Freedom of Information Law, as amended.

A.3.0 Pre-Arbitration Procedures.

A.3.1 Should a dispute arise between any Utility and the Contractor pursuant to Article A.1.0 of this Appendix, the disputing party will notify the City and the other party in writing within two (2) Business Days of the dispute that a dispute exists, and briefly describe; (i) the nature of the dispute; and (ii) the proposed resolution and rationale supporting its proposal.

A.3.2 After notifying the City of the dispute, the disputing parties will have fifteen

(15) Business Days to meet, discuss the issues, exchange documents and/or exchange offers with due diligence and in good faith in order to reach an agreement and resolve the dispute.

A.3.3. If the disputing parties reach an agreement, they will immediately notify the City in writing that the dispute has been resolved and describe the terms of the resolution.

A.3.4 If the disputing parties have not reached an agreement within fifteen (15) Business Days of the date the City was first notified of the dispute, the Contractor will, within five (5) Business Days thereafter, submit to the Utility a written Final Offer, which will consist of: (i) a description (e.g., units and quantities) of all reasonable and necessary disputed work or extra work which the Contractor contends are not covered by application of the contract rates; and (ii) a detailed breakdown of the Contractor's proposed prices (e.g., unit prices and quantities) for such work.

A.3.5 Upon receipt of the Contractor's Final Offer, the Utility will, within five (5) Business Days, either accept the Contractor's Final Offer or submit to the Contractor a written Final Offer which will consist of: (i) a description (e.g., units and quantities) of all reasonable and necessary disputed work or extra work, if any; and (ii) a detailed breakdown of the Utility's proposed prices (e.g., unit prices and quantities) for such work, if applicable.

A.3.6 Once Final Offers have been exchanged by the parties, they may not be modified or withdrawn by either party except by mutual agreement or final settlement of the dispute.

A.3.7 Upon exchange of Final Offers, the Contractor will have three (3) Business Days, to either accept or reject the Utility's Final Offer. If the Contractor rejects the Utility's Final Offer, then either the Contractor or the Utility will submit the dispute to the American Arbitration Association ("AAA") to be resolved in accordance with the Construction Industry Arbitration Rules ("Rules") in effect on the date the arbitration is initiated, except as such Rules are modified herein.

A.3.8 Each of the steps described above will be a condition precedent to the obligations of the parties in succeeding steps. Since **Time is of the Essence**, should either party fail to comply with any of the pre-arbitration procedures described above, that party will be deemed to be in default. If, upon receipt of written notice of default by the other party, the defaulting party has not cured the default within three (3) Business Days, the other party may proceed to arbitration solely on the issue of whether the defaulting party was in default of these pre-arbitration procedures. If, after hearing evidence, the arbitrator(s) determine that the defaulting party was in default of these pre-arbitration procedures, then the arbitrator(s) will enter a final decision in favor of the other party in accordance with the Final Offer submitted by the other party or, if no Final Offer has been submitted prior to the default, according to the last written proposal submitted by the other party.

A.4.0 General Provisions.

A.4.1 The Utility agrees to pay for any disputed or extra Utility Work while the arbitration proceeding is pending based on the Utility's Final Offer.

A.4.2 All determinations by the parties required by this **Appendix "JB-A"** will be clearly stated, with a reasoned explanation for the determination based on the information and evidence presented to the party making the determination.

A.4.3 The Utility agrees to copy the City on all communications involving the arbitration process and to notify the City of the final determination.

A.4.4 The Utility agrees to pay the Contractor directly for any final settlement for extra Utility Work that may be agreed to by the Utilities and the Contractor or any final award for extra Utility Work issued by the arbitrator(s), less credits for any payments previously made by the Utility to the Contractor.

A.4.5 All of the contract defined terms will apply here, as if they were re-stated herein.

A.4.6 Since **Time Is Of The Essence** on all Joint Bid Projects, whenever there is a dispute pursuant to this **Appendix "JB-A"**, the terms of the City's Construction Contract will remain in full force and effect, and the Contractor will continue performing all of the Contract Work and the Utility Work as directed by the City.

A.4.7 The timeframes set forth herein have been established to ensure that the Joint Bid Project does not stop for any disputes between the Contractor and the Utility.

A.4.8 All of the timeframes are measured in Business Days, which include Monday, Tuesday, Wednesday, Thursday and Friday, but exclude holidays.

A.4.9 For all disputes that arise under **Appendix "JB-A"**, the City's role will be limited to receiving copies of all written communications.

A.4.10 The Contractor and all subcontractors hired by it agree to waive any rights they may have, if any, under law, equity, contract or otherwise to compel the City to assert any right the City may have, including the issuance of any directives or so-called "order outs" under the New York City Administrative Code, to require any or all of the Utilities to maintain, repair, replace, protect, support, shift, alter, relocate, and/or remove Utility facilities in connection with work to be performed under this contract. However, nothing in this Agreement will preclude the City from exercising its rights under the law, including the right to issue such a directive to a Utility.

A.4.11 Each Utility will be named as an additional insured on all insurance policies required to be maintained by the Contractor in connection with the Joint Bid Project. The actual incremental cost, if any, to the Contractor of providing such insurance coverage will be borne by the Contractor. The Contractor will provide a written statement from its insurance provider documenting this added coverage to the Utility. Under no circumstances will the cost of insurance coverage on behalf of the Utility be borne by the City. Nothing in this paragraph will be interpreted to imply the City's acceptance of any additional responsibility or liability for any matter related to the performance of Utility Work. In particular, with regard to any Utility Work performed in accordance with or through this **Appendix "JB-A"**, the Utility and the Contractor bear joint and full responsibility to ensure that any Utility Work performed by the Contractor is in compliance with all applicable government and Utility regulations.

A.5.0 The Arbitration Procedures.

A.5.1 Once the AAA has appointed an arbitrator(s), the arbitration will be scheduled as promptly as possible given the arbitrator(s) and the parties' schedules.

A.5.2 No later than fourteen (14) calendar days prior to the first day of arbitration, the Utility and Contractor will submit to the arbitrator(s), and to each other, a summary of each party's respective position, all documentary, photographic or physical evidence on which the party intends to rely, and such other information as is deemed appropriate, along with a copy of each party's "Final Offer" as described above.

A.5.3 The arbitration will be conducted and concluded in two (2) days.

A.5.4 On the morning of the first (1^{st}) day of the arbitration, Contractor and/or representatives will have 3½ hours to make a presentation of its claim to the arbitrator(s). During its presentation, Contractor will not be permitted to produce any evidence that has not already been provided to the Utility and the arbitrator(s) pursuant to Paragraph A.5.2, above. Contractor will be permitted to produce any analysis or description of its claim that has been prepared for the purpose of its presentation.

A.5.5 After the Contractor's presentation, Utility and/or its representatives will have 2 hours to ask the Contractor questions about its claim and its presentation. Thereafter, the arbitrator(s) will have 2 hours to ask the Contractor questions about its claim and its presentation.

A.5.6 On the morning of the second (2^{nd}) day of the arbitration, Utility and/or its representatives will have 3½ hours to make a presentation of its claim to the arbitrator(s). During its presentation, the Utilities will not be permitted to produce any evidence that has not already been provided to the Contractor and the arbitrator(s) pursuant to Paragraph A.5.2, above. The Utility will be permitted to produce any analysis or description of its claim that has been prepared for the purpose of its presentation.

A.5.7 After the Utility's presentation, the Contractor and/or its representatives will have 2 hours to ask the Utility questions about its claim and its presentation. Thereafter, the arbitrator(s) will have 2 hours to ask the Utility questions about its claim and its presentation.

A.5.8 Subject to the above maximum time limitations set forth above, the arbitrator(s) may conduct the arbitration in such manner as the arbitrator(s) deems reasonable.

A.5.9 The arbitrator(s) will then have one (1) week to select in writing, as the arbitrators' award, that party's Final Offer that appears to be more reasonable, based on the presentations at the arbitration hearings.

A.5.10 The arbitrator(s) will have no discretion to grant an award other than one of the two (2) Final Offers submitted by the parties.

A.5.11 The arbitration award will be final and binding upon the parties to the arbitration and judgment upon the award may be entered in a court having jurisdiction.

A.5.12 Any award for work that has already been performed will be paid on the 7^{th} day after receipt of the arbitrator's decision, or on the 30^{th} day after completion of the work, whichever is later. Payment for work not yet completed at the time of the arbitrator's decision will be paid within thirty

(30) calendar days of completion of work. Interest will accrue from the date payment is due at the rate of nine (9%) percent per annum. Either party may cause judgment to be entered in accordance with the decision of the arbitrator(s) in a court in the State of New York, County of New York.

A.5.13 The Utility and the Contractor initially will share the arbitrator's(s') fees and any other costs of the arbitration equally. The non-prevailing party will then pay all arbitrator's(s') fees and costs of the arbitration and will reimburse the prevailing party for its share of such fees and costs theretofore paid.

A.5.14 The parties may, at any time, settle any matter submitted to arbitration.

A.5.15 Since **Time is of the Essence**, should any party, at any time after the dispute has been submitted for arbitration, materially fail to comply with: (i) the Rules, (ii) any of these arbitration procedures, or (iii) any procedural decisions by the arbitrator(s), then the arbitrator(s) will enter an order directing the party to cure its non-compliance within five (5) Business Days. If the party fails to comply with the order of the arbitrator(s) order within the five (5) Business Days, upon receipt of evidence that the non-complying party has failed to comply with the arbitrator's(s') order, the arbitrator(s) will enter a final decision in favor of the other party in accordance with the other party's Final Offer.

END OF JB-PAGES SECTION A

(NO FURTHER TEXT ON THIS PAGE)

SECTION B. NYC JOINT BID ITEM PRICE LIST

NYCDDC Infrastructure Division - Joint Bid Utility Price List

Item No.	Item Description	Unit	Price
JB 100.1	UTILITIES CROSSING TRENCH FOR CATCH BASIN CHUTE CONNECTION (TYPE .1)	EACH	$ 620
JB 100.2	UTILITIES CROSSING TRENCH FOR CATCH BASIN CHUTE CONNECTION (TYPE .2)	EACH	$ 929
JB 100.3	UTILITIES CROSSING TRENCH FOR CATCH BASIN CHUTE CONNECTION (TYPE .3)	EACH	$ 1,219
JB 100.4	UTILITIES CROSSING TRENCH FOR CATCH BASIN CHUTE CONNECTION (TYPE .4)	EACH	$ 1,482
JB 100.5	UTILITIES CROSSING TRENCH FOR CATCH BASIN CHUTE CONNECTION (TYPE .5)	EACH	$ 2,039
JB 100.6	UTILITIES CROSSING TRENCH FOR CATCH BASIN CHUTE CONNECTION (TYPE .6)	EACH	$ 2,179
JB 100.7	UTILITIES CROSSING TRENCH FOR CATCH BASIN CHUTE CONNECTION (TYPE .7)	EACH	$ 2,363
JB 101.1	UTILITIES CROSSING TRENCH FOR SEWERS OVER 12" TO 24" DIAMETER (TYPE .1)	EACH	$ 3,099
JB 101.2	UTILITIES CROSSING TRENCH FOR SEWERS OVER 12" TO 24" DIAMETER (TYPE .2)	EACH	$ 3,556
JB 101.3	UTILITIES CROSSING TRENCH FOR SEWERS OVER 12" TO 24" DIAMETER (TYPE .3)	EACH	$ 4,796
JB 101.4	UTILITIES CROSSING TRENCH FOR SEWERS OVER 12" TO 24" DIAMETER (TYPE .4)	EACH	$ 5,075
JB 101.5	UTILITIES CROSSING TRENCH FOR SEWERS OVER 12" TO 24" DIAMETER (TYPE .5)	EACH	$ 6,144
JB 101.6	UTILITIES CROSSING TRENCH FOR SEWERS OVER 12" TO 24" DIAMETER (TYPE .6)	EACH	$ 6,723
JB 101.7	UTILITIES CROSSING TRENCH FOR SEWERS OVER 12" TO 24" DIAMETER (TYPE .7)	EACH	$ 6,805
JB 102.1	UTILITIES CROSSING TRENCH FOR SEWERS OVER 24" TO 36" DIAMETER (TYPE .1)	EACH	$ 3,861
JB 102.2	UTILITIES CROSSING TRENCH FOR SEWERS OVER 24" TO 36" DIAMETER (TYPE .2)	EACH	$ 4,338
JB 102.3	UTILITIES CROSSING TRENCH FOR SEWERS OVER 24" TO 36" DIAMETER (TYPE .3)	EACH	$ 5,176
JB 102.4	UTILITIES CROSSING TRENCH FOR SEWERS OVER 24" TO 36" DIAMETER (TYPE .4)	EACH	$ 5,919
JB 102.5	UTILITIES CROSSING TRENCH FOR SEWERS OVER 24" TO 36" DIAMETER (TYPE .5)	EACH	$ 6,558
JB 102.6	UTILITIES CROSSING TRENCH FOR SEWERS OVER 24" TO 36" DIAMETER (TYPE .6)	EACH	$ 6,945
JB 102.7	UTILITIES CROSSING TRENCH FOR SEWERS OVER 24" TO 36" DIAMETER (TYPE .7)	EACH	$ 8,151
JB 103.1	UTILITIES CROSSING TRENCH FOR SEWERS OVER 36" TO 48" DIAMETER (TYPE .1)	EACH	$ 4,525
JB 103.2	UTILITIES CROSSING TRENCH FOR SEWERS OVER 36" TO 48" DIAMETER (TYPE .2)	EACH	$ 5,318

NYCDDC Infrastructure Division - Joint Bid Utility Price List

Item No.	Item Description	Unit	Price
JB 103.3	UTILITIES CROSSING TRENCH FOR SEWERS OVER 36" TO 48" DIAMETER (TYPE .3)	EACH	$ 6,616
JB 103.4	UTILITIES CROSSING TRENCH FOR SEWERS OVER 36" TO 48" DIAMATER (TYPE .4)	EACH	$ 7,779
JB 103.5	UTILITIES CROSSING TRENCH FOR SEWERS OVER 36" TO 48" DIAMATER (TYPE .5)	EACH	$ 9,308
JB 103.6	UTILITIES CROSSING TRENCH FOR SEWERS OVER 36" TO 48" DIAMATER (TYPE .6)	EACH	$ 9,978
JB 103.7	UTILITIES CROSSING TRENCH FOR SEWERS OVER 36" TO 48" DIAMATER (TYPE .7)	EACH	$10,648
JB 104.1	UTILITIES CROSSING TRENCH FOR SEWERS OVER 48" TO 54" DIAMETER (TYPE .1)	EACH	$ 4,982
JB 104.2	UTILITIES CROSSING TRENCH FOR SEWERS OVER 48" TO 54" DIAMETER (TYPE .2)	EACH	$ 5,510
JB 104.3	UTILITIES CROSSING TRENCH FOR SEWERS OVER 48" TO 54" DIAMETER (TYPE .3)	EACH	$ 6,575
JB 104.4	UTILITIES CROSSING TRENCH FOR SEWERS OVER 48" TO 54" DIAMETER (TYPE .4)	EACH	$ 7,388
JB 104.5	UTILITIES CROSSING TRENCH FOR SEWERS OVER 48" TO 54" DIAMETER (TYPE .5)	EACH	$ 8,602
JB 104.6	UTILITIES CROSSING TRENCH FOR SEWERS OVER 48" TO 54" DIAMETER (TYPE .6)	EACH	$ 9,000
JB 104.7	UTILITIES CROSSING TRENCH FOR SEWERS OVER 48" TO 54" DIAMETER (TYPE .7)	EACH	$ 9,568
JB 105.1	UTILITIES CROSSING TRENCH FOR SEWERS OVER 54" TO 60" DIAMETER (TYPE .1)	EACH	$ 5,343
JB 105.2	UTILITIES CROSSING TRENCH FOR SEWERS OVER 54" TO 60" DIAMETER (TYPE .2)	EACH	$ 5,913
JB 105.3	UTILITIES CROSSING TRENCH FOR SEWERS OVER 54" TO 60" DIAMETER (TYPE .3)	EACH	$ 7,304
JB 105.4	UTILITIES CROSSING TRENCH FOR SEWERS OVER 54" TO 60" DIAMETER (TYPE .4)	EACH	$ 8,506
JB 105.5	UTILITIES CROSSING TRENCH FOR SEWERS OVER 54" TO 60" DIAMETER (TYPE .5)	EACH	$10,209
JB 105.6	UTILITIES CROSSING TRENCH FOR SEWERS OVER 54" TO 60" DIAMETER (TYPE .6)	EACH	$10,831
JB 105.7	UTILITIES CROSSING TRENCH FOR SEWERS OVER 54" TO 60" DIAMETER (TYPE .7)	EACH	$10,150
JB 106.1	UTILITIES CROSSING TRENCH FOR SEWERS OVER 60" TO 72" DIAMETER (TYPE .1)	EACH	$ 5,584
JB 106.2	UTILITIES CROSSING TRENCH FOR SEWERS OVER 60" TO 72" DIAMETER (TYPE .2)	EACH	$ 6,161
JB 106.3	UTILITIES CROSSING TRENCH FOR SEWERS OVER 60" TO 72" DIAMETER (TYPE .3)	EACH	$ 7,595
JB 106.4	UTILITIES CROSSING TRENCH FOR SEWERS OVER 60" TO 72" DIAMETER (TYPE .4)	EACH	$ 8,828

NYCDDC Infrastructure Division - Joint Bid Utility Price List

Item No.	Item Description	Unit	Price
JB 106.5	UTILITIES CROSSING TRENCH FOR SEWERS OVER 60" TO 72" DIAMETER (TYPE .5)	EACH	$10,460
JB 106.6	UTILITIES CROSSING TRENCH FOR SEWERS OVER 60" TO 72" DIAMETER (TYPE .6)	EACH	$11,090
JB 106.7	UTILITIES CROSSING TRENCH FOR SEWERS OVER 60" TO 72" DIAMETER (TYPE .7)	EACH	$11,719
JB 107.1	UTILITIES CROSSING TRENCH FOR SEWERS OVER 72" TO 84" DIAMETER (TYPE .1)	EACH	$ 5,894
JB 107.2	UTILITIES CROSSING TRENCH FOR SEWERS OVER 72" TO 84" DIAMETER (TYPE .2)	EACH	$ 6,583
JB 107.3	UTILITIES CROSSING TRENCH FOR SEWERS OVER 72" TO 84" DIAMETER (TYPE .3)	EACH	$ 8,017
JB 107.4	UTILITIES CROSSING TRENCH FOR SEWERS OVER 72" TO 84" DIAMETER (TYPE .4)	EACH	$ 9,305
JB 107.5	UTILITIES CROSSING TRENCH FOR SEWERS OVER 72" TO 84" DIAMETER (TYPE .5)	EACH	$11,170
JB 107.6	UTILITIES CROSSING TRENCH FOR SEWERS OVER 72" TO 84" DIAMETER (TYPE .6)	EACH	$11,598
JB 107.7	UTILITIES CROSSING TRENCH FOR SEWERS OVER 72" TO 84" DIAMETER (TYPE .7)	EACH	$12,026
JB 108.1	UTILITIES CROSSING TRENCH FOR WATER MAIN UP TO AND INCLUDING 12" DIAMETER (TYPE .1)	EACH	$ 945
JB 108.2	UTILITIES CROSSING TRENCH FOR WATER MAIN UP TO AND INCLUDING 12" DIAMETER (TYPE .2)	EACH	$ 1,627
JB 108.3	UTILITIES CROSSING TRENCH FOR WATER MAIN UP TO AND INCLUDING 12" DIAMETER (TYPE .3)	EACH	$ 2,317
JB 108.4	UTILITIES CROSSING TRENCH FOR WATER MAIN UP TO AND INCLUDING 12" DIAMETER (TYPE .4)	EACH	$ 2,959
JB 108.5	UTILITIES CROSSING TRENCH FOR WATER MAIN UP TO AND INCLUDING 12" DIAMETER (TYPE .5)	EACH	$ 3,450
JB 108.6	UTILITIES CROSSING TRENCH FOR WATER MAIN UP TO AND INCLUDING 12" DIAMETER (TYPE .6)	EACH	$ 3,864
JB 108.7	UTILITIES CROSSING TRENCH FOR WATER MAIN UP TO AND INCLUDING 12" DIAMETER (TYPE .7)	EACH	$ 4,735
JB 109.1	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 12" AND UP TO 24" DIAMETER (TYPE .1)	EACH	$ 1,370
JB 109.2	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 12" AND UP TO 24" DIAMETER (TYPE .2)	EACH	$ 1,904
JB 109.3	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 12" AND UP TO 24" DIAMETER (TYPE .3)	EACH	$ 2,576
JB 109.4	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 12" AND UP TO 24" DIAMETER (TYPE .4)	EACH	$ 3,298
JB 109.5	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 12" AND UP TO 24" DIAMETER (TYPE .5)	EACH	$ 3,822
JB 109.6	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 12" AND UP TO 24" DIAMETER (TYPE .6)	EACH	$ 4,284

JB-B4

NYCDDC Infrastructure Division - Joint Bid Utility Price List

Item No.	Item Description	Unit	Price
JB 109.7	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 12" AND UP TO 24" DIAMETER (TYPE .7)	EACH	$ 4,440
JB 110.1	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 24" AND UP TO 36" DIAMETER (TYPE .1)	EACH	$ 1,786
JB 110.2	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 24" AND UP TO 36" DIAMETER (TYPE .2)	EACH	$ 2,302
JB 110.3	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 24" AND UP TO 36" DIAMETER (TYPE .3)	EACH	$ 2,971
JB 110.4	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 24" AND UP TO 36" DIAMETER (TYPE .4)	EACH	$ 3,753
JB 110.5	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 24" AND UP TO 36" DIAMETER (TYPE .5)	EACH	$ 4,391
JB 110.6	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 24" AND UP TO 36" DIAMETER (TYPE .6)	EACH	$ 5,050
JB 110.7	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 24" AND UP TO 36" DIAMETER (TYPE .7)	EACH	$ 5,906
JB 111.1	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 36" AND UP TO 48" DIAMETER (TYPE .1)	EACH	$ 2,224
JB 111.2	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 36" AND UP TO 48" DIAMETER (TYPE .2)	EACH	$ 2,976
JB 111.3	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 36" AND UP TO 48" DIAMETER (TYPE .3)	EACH	$ 3,959
JB 111.4	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 36" AND UP TO 48" DIAMETER (TYPE .4)	EACH	$ 5,038
JB 111.5	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 36" AND UP TO 48" DIAMETER (TYPE .5)	EACH	$ 5,947
JB 111.6	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 36" AND UP TO 48" DIAMETER (TYPE .6)	EACH	$ 6,745
JB 111.7	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 36" AND UP TO 48" DIAMETER (TYPE .7)	EACH	$ 8,427
JB 112.1	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 48" AND UP TO 54" DIAMETER (TYPE .1)	EACH	$ 2,220
JB 112.2	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 48" AND UP TO 54" DIAMETER (TYPE .2)	EACH	$ 2,877
JB 112.3	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 48" AND UP TO 54" DIAMETER (TYPE .3)	EACH	$ 3,993
JB 112.4	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 48" AND UP TO 54" DIAMETER (TYPE .4)	EACH	$ 5,147
JB 112.5	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 48" AND UP TO 54" DIAMETER (TYPE .5)	EACH	$ 6,037
JB 112.6	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 48" AND UP TO 54" DIAMETER (TYPE .6)	EACH	$ 6,794
JB 112.7	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 48" AND UP TO 54" DIAMETER (TYPE .7)	EACH	$ 8,029
JB 113.1	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 54" AND UP TO 60" DIAMETER (TYPE .1)	EACH	$ 2,557

JB-B5

NYCDDC Infrastructure Division - Joint Bid Utility Price List

Item No.	Item Description	Unit	Price
JB 113.2	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 54" AND UP TO 60" DIAMETER (TYPE .2)	EACH	$ 3,464
JB 113.3	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 54" AND UP TO 60" DIAMETER (TYPE .3)	EACH	$ 4,602
JB 113.4	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 54" AND UP TO 60" DIAMETER (TYPE .4)	EACH	$ 5,784
JB 113.5	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 54" AND UP TO 60" DIAMETER (TYPE .5)	EACH	$ 6,644
JB 113.6	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 54" AND UP TO 60" DIAMETER (TYPE .6)	EACH	$ 7,488
JB 113.7	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 54" AND UP TO 60" DIAMETER (TYPE .7)	EACH	$ 8,714
JB 114.1	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 60" AND UP TO 72" DIAMETER (TYPE .1)	EACH	$ 2,699
JB 114.2	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 60" AND UP TO 72" DIAMETER (TYPE .2)	EACH	$ 3,897
JB 114.3	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 60" AND UP TO 72" DIAMETER (TYPE .3)	EACH	$ 5,850
JB 114.4	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 60" AND UP TO 72" DIAMETER (TYPE .4)	EACH	$ 7,595
JB 114.5	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 60" AND UP TO 72" DIAMETER (TYPE .5)	EACH	$ 8,990
JB 114.6	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 60" AND UP TO 72" DIAMETER (TYPE .6)	EACH	$ 9,950
JB 114.7	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 60" AND UP TO 72" DIAMETER (TYPE .7)	EACH	$10,260
JB 115.1	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 72" AND UP TO 84" DIAMETER (TYPE .1)	EACH	$ 3,112
JB 115.2	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 72" AND UP TO 84" DIAMETER (TYPE .2)	EACH	$ 4,458
JB 115.3	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 72" AND UP TO 84" DIAMETER (TYPE .3)	EACH	$ 6,569
JB 115.4	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 72" AND UP TO 84" DIAMETER (TYPE .4)	EACH	$ 8,658
JB 115.5	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 72" AND UP TO 84" DIAMETER (TYPE .5)	EACH	$10,240
JB 115.6	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 72" AND UP TO 84" DIAMETER (TYPE .6)	EACH	$11,241
JB 115.7	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 72" AND UP TO 84" DIAMETER (TYPE .7)	EACH	$11,633
JB 116.1	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 84" (TYPE .1)	EACH	$ 3,377
JB 116.2	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 84" (TYPE .2)	EACH	$ 4,852
JB 116.3	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 84" (TYPE .3)	EACH	$ 7,016

JB-B6

NYCDDC Infrastructure Division - Joint Bid Utility Price List

Item No.	Item Description	Unit	Price
JB 116.4	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 84" (TYPE .4)	EACH	$ 9,344
JB 116.5	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 84" (TYPE .5)	EACH	$11,085
JB 116.6	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 84" (TYPE .6)	EACH	$12,198
JB 116.7	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 84" (TYPE .7)	EACH	$12,592
JB 200	EXTRA DEPTH EXCAVATION OF CATCH BASIN CHUTE CONNECTION PIPES	L.F.	$ 261
JB 225.1A	INSTALLATION AND REMOVAL OF CATCH BASINS WITH UTILITY INTERFERENCES	EACH	$ 4,352
JB 225.1B	INSTALLATION AND REMOVAL OF CATCH BASINS WITH UTILITY INTERFERENCES AT AN ADDITIONAL DEPTH OF UP TO 3 FEET	EACH	$ 4,925
JB 225.2A	INSTALLATION OF CATCH BASINS WITH UTILITY INTERFERENCES	EACH	$ 2,176
JB 225.2B	INSTALLATION OF CATCH BASINS WITH UTILITY INTERFERENCES AT AN ADDITIONAL DEPTH OF UP TO 3 FEET	EACH	$ 2,749
JB 225.3A	REMOVAL OF CATCH BASINS WITH UTILITY INTERFERENCES	EACH	$ 1,998
JB 300A	SPECIAL CARE EXCAVATION AND BACKFILLING FOR TRANSMISSION MAINS (TRANSMISSION MAIN IS DESCRIBED AS ANY GAS MAIN WITH A MAOP GREATER THAN 124-PSIG)	C.Y.	$ 338
JB 300.1	SPECIAL CARE EXCAVATION AND BACKFILLING IN TRENCH LESS THAN 5' DEEP	C.Y.	$ 281
JB 300.2	SPECIAL CARE EXCAVATION AND BACKFILLING IN TRENCH GREATER THAN 5' DEEP	C.Y.	$ 319
JB 301	SPECIAL CARE EXCAVATION AND BACKFILLING FOR OIL-O-STATIC PIPE	C.Y.	$ 427
JB 303	FURNISH, DELIVER AND INSTALL TYPE 3/8 CLEAN SAND BACKFILL	C.Y.	$ 224
JB 306	SPECIAL CARE EXCAVATION AND BACKFILLING WITHIN A CITY TRENCH	C.Y.	$ 294
JB 330E	SUPPORT AND PROTECTION OF UTILITY FACILITIES DURING EXCAVATION	L.F.	$ 192
JB 330G	SUPPORTS FOR PARALLEL FULLY EXPOSED GAS MAINS IN TRENCH	EACH	$ 1,764
JB 330T1	SUPPORT AND PROTECTION OF COMMUNICATION UTILITY FACILITIES DURING EXCAVATION OF CITY TRENCH WHEN PARALLELING COMMUNICATION FACILITIES LIE COMPLETELY IN THE PROPOSED CITY TRENCH	L.F.	$ 166
JB 330T2.1	COMMUNICATIONS FACILITY OPERATOR(S) REQUESTS THE TRENCH BE WIDENED	L.F.	$ 373
JB 330T2.2	COMMUNICATION FACILITY OPERATOR(S) REQUESTS THE TRENCH / SHEETING BE MODIFIED	L.F.	$ 483

JB-B7

NYCDDC Infrastructure Division - Joint Bid Utility Price List

Item No.	Item Description	Unit	Price
JB 351	INSTALL AND REMOVE "A" FRAME ON UTILITY POLES	EACH	$ 1,533
JB 400	TEST PITS FOR UTILITY FACILITIES	C.Y.	$ 355
JB 401	TRENCH EXCAVATION FOR ADJUSTMENT OF UTILITY FACILITIES	C.Y.	$ 380
JB 401A	SPECIAL CARE PAVEMENT EXCAVATION FOR ADJUSTMENT OF UTILITY FACILITIES CONNECTED TO THE BASE PAVEMENT	C.Y.	$ 378
JB 401AC	SPECIAL CARE PAVEMENT EXCAVATION FOR ADJUSTMENT OF CABLE TV FACILITIES CONNCETED TO THE BASE PAVEMENT	C.Y.	$ 378
JB 401AT	SPECIAL CARE PAVEMENT EXCAVATION FOR ADJUSTMENT OF TELECOMMUNICATION FACILITIES CONNECTED TO OR NEAR THE BASE PAVEMENT	C.Y.	$ 378
JB 402.1	EXISTING CONCRETE ENCASED CONDUITS PLACED IN FINAL POSITION WITHOUT CONCRETE ENCASEMENT	L.F.	$ 76
JB 402.1A	EXISTING CONCRETE ENCASED CONDUITS PLACED IN FINAL POSITION WITH CONCRETE ENCASEMENT	L.F.	$ 87
JB 402.2	EXISTING NON-CONCRETE ENCASED CONDUITS PLACED IN FINAL POSITION WITHOUT CONCRETE ENCASEMENT	L.F.	$ 50
JB 402.2A	EXISTING NON-CONCRETE ENCASED CONDUITS PLACED IN FINAL POSITION WITH CONCRETE ENCASEMENT	L.F.	$ 62
JB 402T.1	EXISTING CONCRETE ENCASED TELECOMMUNICATION CONDUITS PLACED IN FINAL POSITION WITHOUT CONCRETE ENCASEMENT	L.F.	$ 76
JB 402T.1A	EXISTING CONCRETE ENCASED TELECOMMUNICATION CONDUITS PLACED IN FINAL POSITION WITH CONCRETE ENCASEMENT	L.F.	$ 83
JB 402T.2	EXISTING NON-CONCRETE ENCASED TELECOMMUNICATION CONDUITS PLACED IN FINAL POSITION WITHOUT CONCRETE ENCASEMENT	L.F.	$ 55
JB 402T.2A	EXISTING NON-CONCRETE ENCASED TELECOMMUNICATION CONDUITS PLACED IN FINAL POSITION WITH CONCRETE ENCASEMENT	L.F.	$ 71
JB 402T.3	ACM REMOVAL AND DISPOSAL OF VERIZON/ECS CONDUITS WITH ASBESTOS CONTAINING MATERIAL TRANSITE PIPES (ACM-TP) UP TO AND INCLUDING 4" DIAMETER	L.F.	$ 107
JB 402T.J1	EXISTING CONCRETE ENCASED CONDUITS PLACED IN FINAL POSITION WITHOUT CONCRETE ENCASEMENT - JOINTS BROKEN OUT AND CONDUITS REMAIN INTACT	L.F.	$ 76

JB-B8

NYCDDC Infrastructure Division - Joint Bid Utility Price List

Item No.	Item Description	Unit	Price
JB 402T.J1A	EXISTING CONCRETE ENCASED CONDUITS PLACED IN FINAL POSITION WITH CONCRETE ENCASEMENT - JOINTS BROKEN OUT AND CONDUITS REMAIN INTACT	L.F.	$ 86
JB 402T.J2	EXISTING NON-CONCRETE ENCASED CONDUITS PLACED IN FINAL POSITION WITHOUT CONCRETE ENCASEMENT - JOINTS BROKEN OUT AND CONDUITS REMAIN INTACT	L.F.	$ 63
JB 402T.J2A	EXISTING NON-CONCRETE ENCASED CONDUITS PLACED IN FINAL POSITION WITH CONCRETE ENCASEMENT - JOINTS BROKEN OUT AND CONDUITS REMAIN INTACT	L.F.	$ 71
JB 402T.R1A	EXISTING CONCRETE ENCASED STEEL/IRON CONDUITS PLACED IN FINAL POSITION WITH CONCRETE ENCASEMENT	L.F.	$ 79
JB 402T.R2A	EXISTING NON - CONCRETE ENCASED STEEL/IRON CONDUITS PLACED IN FINAL POSITION WITH CONCRETE ENCASEMENT	L.F.	$ 63
JB 402T.V1	EXISTING VACANT CONCRETE ENCASED CONDUITS PLACED IN FINAL POSITION WITHOUT CONCRETE ENCASEMENT	L.F.	$ 78
JB 402T.V1A	EXISTING VACANT CONCRETE ENCASED TELECOMMUNICATION CONDUITS PLACED IN FINAL POSITION WITH CONCRETE ENCASEMENT	L.F.	$ 53
JB 402T.V2	EXISTING VACANT NON-CONCRETE ENCASED CONDUITS PLACED IN FINAL POSITION WITHOUT CONCRETE ENCASEMENT	L.F.	$ 65
JB 402T.V2A	EXISTING VACANT NON-CONCRETE ENCASED TELECOMMUNICATION CONDUITS PLACED IN FINAL POSITION WITH CONCRETE ENCASEMENT	L.F.	$ 73
JB 405.1	TRENCH EXCAVATION FOR INSTALLATION OF UTILITY FACILITIES WITH TOTAL DEPTHS LESS THAN FIVE FEET	C.Y.	$ 398
JB 405.2	TRENCH EXCAVATION FOR INSTALLATION OF UTILITY FACILITIES WITH TOTAL DEPTHS EQUAL TO OR GREATER THAN FIVE FEET, REQUIRING SHEETING	C.Y.	$ 482
JB 406	EXCAVATION FOR UTILITY STRUCTURE	C.Y.	$ 332
JB 410.1	MASS TRENCH EXCAVATION FOR UTILITY FACILITIES UP TO AND INCLUDING 20% (TYPE .1)	C.Y.	$ 397
JB 410.2	MASS TRENCH EXCAVATION FOR UTILITY FACILITIES OVER 20% AND UP TO AND INCLUDING 40% (TYPE .2)	C.Y.	$ 473
JB 410.3	MASS TRENCH EXCAVATION FOR UTILITY FACILITIES OVER 40% AND UP TO AND INCLUDING 60% (TYPE .3)	C.Y.	$ 553

JB-B9

NYCDDC Infrastructure Division - Joint Bid Utility Price List

Item No.	Item Description	Unit	Price
JB 410.4	MASS TRENCH EXCAVATION FOR UTILITY FACILITIES OVER 60% AND UP TO AND INCLUDING 80% (TYPE .4)	C.Y.	$ 682
JB 410.5	MASS TRENCH EXCAVATION FOR UTILITY FACILITIES UP TO AND INCLUDING 20% WITH TRENCH DEPTH EQUAL TO OR GREATER THAN FIVE FEET (TYPE .5)	C.Y.	$ 772
JB 410.6	MASS TRENCH EXCAVATION FOR UTILITY FACILITIES OVER 20% AND UP TO AND INCLUDING 40% WITH TRENCH DEPTH EQUAL TO OR GREATER THAN FIVE FEET (TYPE .6)	C.Y.	$ 809
JB 410.7	MASS TRENCH EXCAVATION FOR UTILITY FACILITIES OVER 40% AND UP TO AND INCLUDING 60% WITH TRENCH DEPTH EQUAL TO OR GREATER THAN FIVE FEET (TYPE .7)	C.Y.	$ 897
JB 410.8	MASS TRENCH EXCAVATION FOR UTILITY FACILITIES OVER 60% AND UP TO AND INCLUDING 80% WITH TRENCH DEPTH EQUAL TO OR GREATER THAN FIVE FEET (TYPE .8)	C.Y.	$ 985
JB 450.1	CONSTRUCTION FIELD SUPPORT - SURVEY CREW (TYPE .1)	CREW/HR	$ 382
JB 450.2	CONSTRUCTION FIELD SUPPORT - SMALL SIZE CREW (TYPE .2)	CREW/HR	$ 538
JB 450.3	CONSTRUCTION FIELD SUPPORT - MEDIUM SIZE CREW (TYPE .3)	CREW/HR	$ 1,294
JB 450.5	CONSTRUCTION FIELD SUPPORT - MEDIUM SIZE CREW (TYPE .5) PIPE-RIPPING SUPPORT	CREW/HR	$ 1,089
JB 636 EA	ADJUSTMENT OF UTILITY HARDWARE (UNDER 7" WIDTH)	EACH	$ 229
JB 636 EB	ADJUSTMENT OF UTILITY HARDWARE (7" TO UNDER 14" WIDTH)	EACH	$ 385
JB 636 EC	ADJUSTMENT OF UTILITY HARDWARE (14" TO UNDER 30" WIDTH)	EACH	$ 981
JB 636 ED	ADJUSTMENT OF UTILITY HARDWARE (30" TO UNDER 34" WIDTH)	EACH	$ 1,029
JB 636 EE	ADJUSTMENT OF UTILITY HARDWARE (34" TO UNDER 41" WIDTH)	EACH	$ 1,176
JB 636 EG	ADJUSTMENT OF UTILITY HARDWARE (41" TO UNDER 75" WIDTH)	EACH	$ 1,323
JB 636 EH	ADJUSTMENT OF UTILITY HARDWARE (75" TO UNDER 125" WIDTH)	EACH	$ 1,485
JB 636 EI	ADJUSTMENT OF UTILITY HARDWARE (125" TO UNDER 170" WIDTH)	EACH	$ 1,638
JB 636 MA	ADJUSTMENT OF UTILITY HARDWARE 7" to 30" MILLING / RESURFACING	EACH	$ 140
JB 636 MB	MODIFICATION OF WORK METHODS TO ACCOMMODATE UTILITY HARDWARE (7" TO UNDER 14" WIDTH)	EACH	$ 169
JB 636 MC	MODIFICATION OF WORK METHODS TO ACCOMMODATE UTILITY HARDWARE (14" TO UNDER 30" WIDTH)	EACH	$ 184
JB 636 MD	MODIFICATION OF WORK METHODS TO ACCOMMODATE UTILITY HARDWARE (30" TO UNDER 34" WIDTH)	EACH	$ 198

JB-B10

NYCDDC Infrastructure Division - Joint Bid Utility Price List

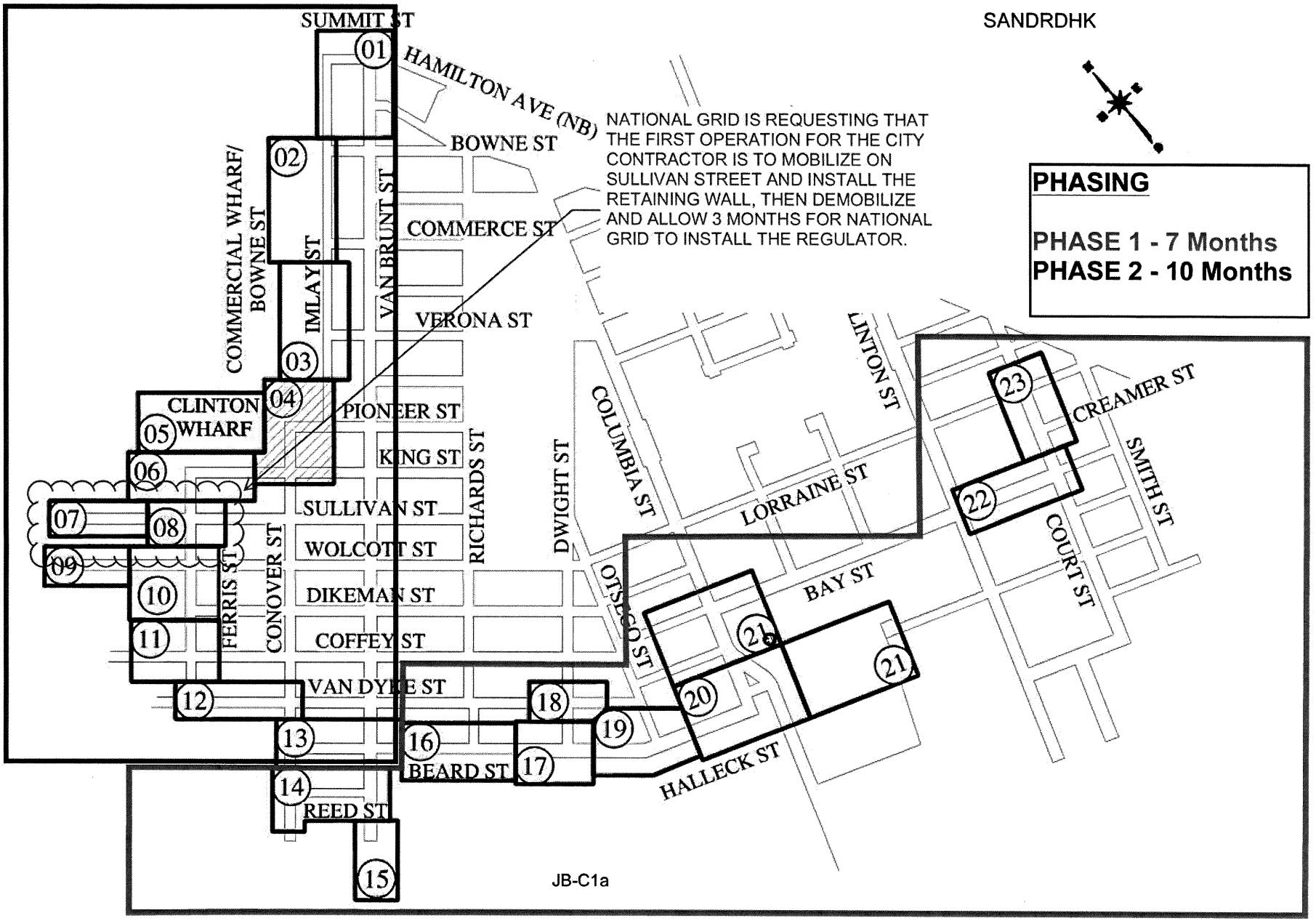
Item No.	Item Description	Unit	Price
JB 636 ME	MODIFICATION OF WORK METHODS TO ACCOMMODATE UTILITY HARDWARE (34" TO UNDER 41" WIDTH)	EACH	$ 223
JB 636 MG	MODIFICATION OF WORK METHODS TO ACCOMMODATE UTILITY HARDWARE (41" TO UNDER 75" WIDTH)	EACH	$ 253
JB 636 MH	MODIFICATION OF WORK METHODS TO ACCOMMODATE UTILITY HARDWARE (75" TO UNDER 125" WIDTH)	EACH	$ 287
JB 636 MI	MODIFICATION OF WORK METHODS TO ACCOMMODATE UTILITY HARDWARE (125" TO UNDER 170" WIDTH)	EACH	$ 323
JB 636 SB	ADJUSTMENT TO UTILITY STEAM CASTINGS (UNDER AND INCLUDING 8" WIDTH)	EACH	$ 263
JB 636 SC	ADJUSTMENT OF UTILITY STEAM CASTINGS (ABOVE 8" TO 34" WIDTH)	EACH	$ 778
JB 700	SPECIAL MODIFICATION OF WORK METHODS TO ACCOMMODATE/PROTECT UNDERGROUND FACILITIES WITH LIMITED COVER	C.Y.	$ 146
JB 711	USE SHEETING LINE AS FORM	L.F.	$ 7
JB 781	REMOVABLE CURB SIDEWALK PANEL FOR ACCESS TO UTILITY STRUCTURE OPENINGS	EACH	$ 1,742
JB 798	MODIFICATION OF NON-CONCRETE YOKE TROLLEY STRUCTURES REMOVAL WHEN CROSSING UTILITY FACILITIES	L.F.	$ 359
JB 799	MODIFICATION OF NON-CONCRETE YOKE TROLLEY STRUCTURES REMOVAL PARALLEL TO UTILITY FACILITIES	L.F.	$ 113
JB 800	MODIFICATION OF CONCRETE YOKE TROLLEY STRUCTURE REMOVAL WHEN CROSSING UTILITY FACILITIES	L.F.	$ 269
JB 801	MODIFICATION OF CONCRETE YOKE TROLLEY STRUCTURE REMOVAL PARALLEL TO UTILITY FACILITIES	L.F.	$ 137
JB 802A	SPECIAL CARE EXCAVATION AND RESTORATION FOR SIDEWALK WORK	S.F.	$ 6
JB 802B	SPECIAL CARE EXCAVATION AND RESOTRATION FOR CURB WORK	L.F.	$ 13
JB 803.1	LINE CUT BY PNEUMATIC TOOLS IN LIEU OF SAW CUT ASSOCIATED WITH RDWY REMOVAL (LINE CUT ASPHALT)	L.F.	$ 12
JB 803.2	LINE CUT BY PNEUMATIC TOOLS IN LIEU OF SAW CUT ASSOCIATED WITH ROADWAY REMOVAL OPERATIONS (LINE CUT ANY COMBINATION OF ASPHALT AND CONCRETE ROADWAY)	L.F.	$ 24
JB 803.3	LINE CUT BY PNEUMATIC TOOLS IN LIEU OF SAW CUT ASSOCIATED WITH ASPHALT, CONCRETE AND BELGIAN BLOCK ROADWAY REMOVAL OPERATIONS	L.F.	$ 34

JB-B11

[price list goes here]

END OF JB-PAGES SECTION B
(NO FURTHER TEXT ON THIS PAGE)

SECTION C. JOINT BID SPECIAL SPECIFICATIONS


SANDRDHK
SUMMIT ST
HAMILTON AVE (NB)
BOWNE ST
COMMERCIAL WHARF/ BOWNE ST
IMLAY ST
VAN BRUNT ST
COMMERCE ST
VERONA ST
CLINTON WHARF
PIONEER ST
KING ST
SULLIVAN ST
WOLCOTT ST
DIKEMAN ST
COFFEY ST
VAN DYKE ST
REED ST
BEARD ST
FERRIS ST
CONOVER ST
RICHARDS ST
DWIGHT ST
COLUMBIA ST
LINTON ST
LORRAINE ST
OTSEGO ST
BAY ST
HALLECK ST
CREAMER ST
SMITH ST
COURT ST
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23
NATIONAL GRID IS REQUESTING THAT THE FIRST OPERATION FOR THE CITY CONTRACTOR IS TO MOBILIZE ON SULLIVAN STREET AND INSTALL THE RETAINING WALL, THEN DEMOBILIZE AND ALLOW 3 MONTHS FOR NATIONAL GRID TO INSTALL THE REGULATOR.
PHASING
PHASE 1 - 7 Months
PHASE 2 - 10 Months
JB-C1a

conEdison

JOB NO: SANDRDHK TEST PIT # TP-1 (Pkg-1)

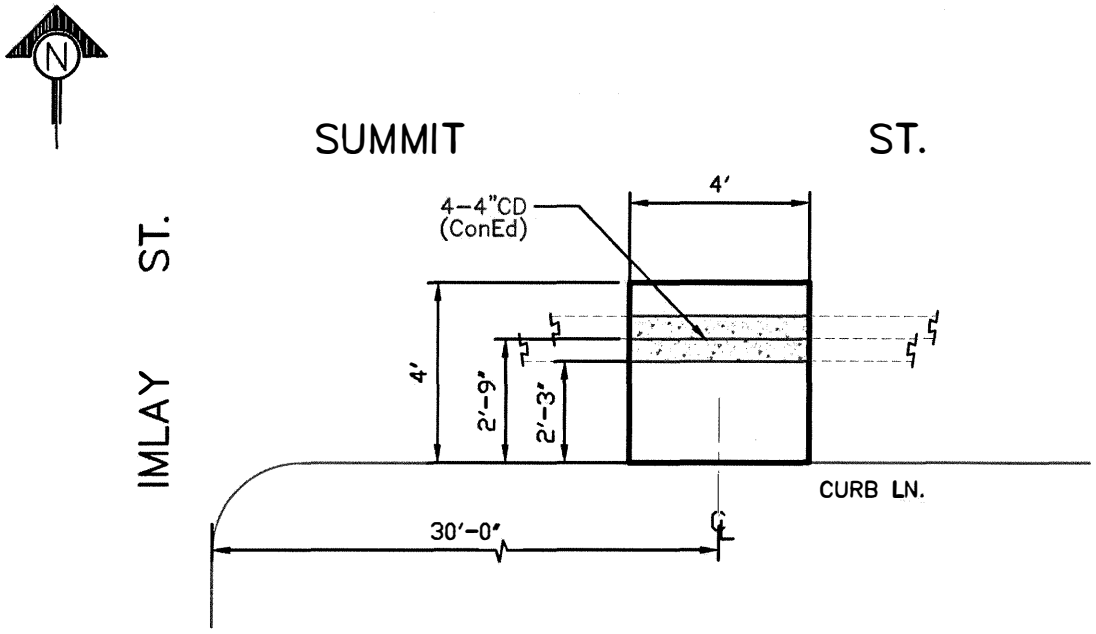
PREPARED BY: M. TORRES DATE: 10/03/23

CHECKED BY: C. ALMAN DATE: 10/30/23

JOB NAME: SANDRDHK LOCATION: 3'N/S/C SUMMIT STREET

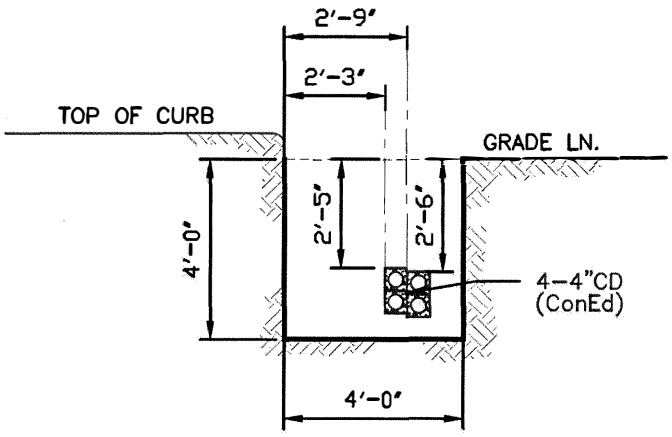
PURPOSE: TYPE 3 CATCH BASIN REQUEST 30'E/E/C IMLAY STREET

DATE OF EXCAVATION: 08/23/23 CONTRACT SHEET NO: 1 OF



JB
225.1

PLAN
N.T.S



PROFILE – LOOKING WEST
N.T.S.

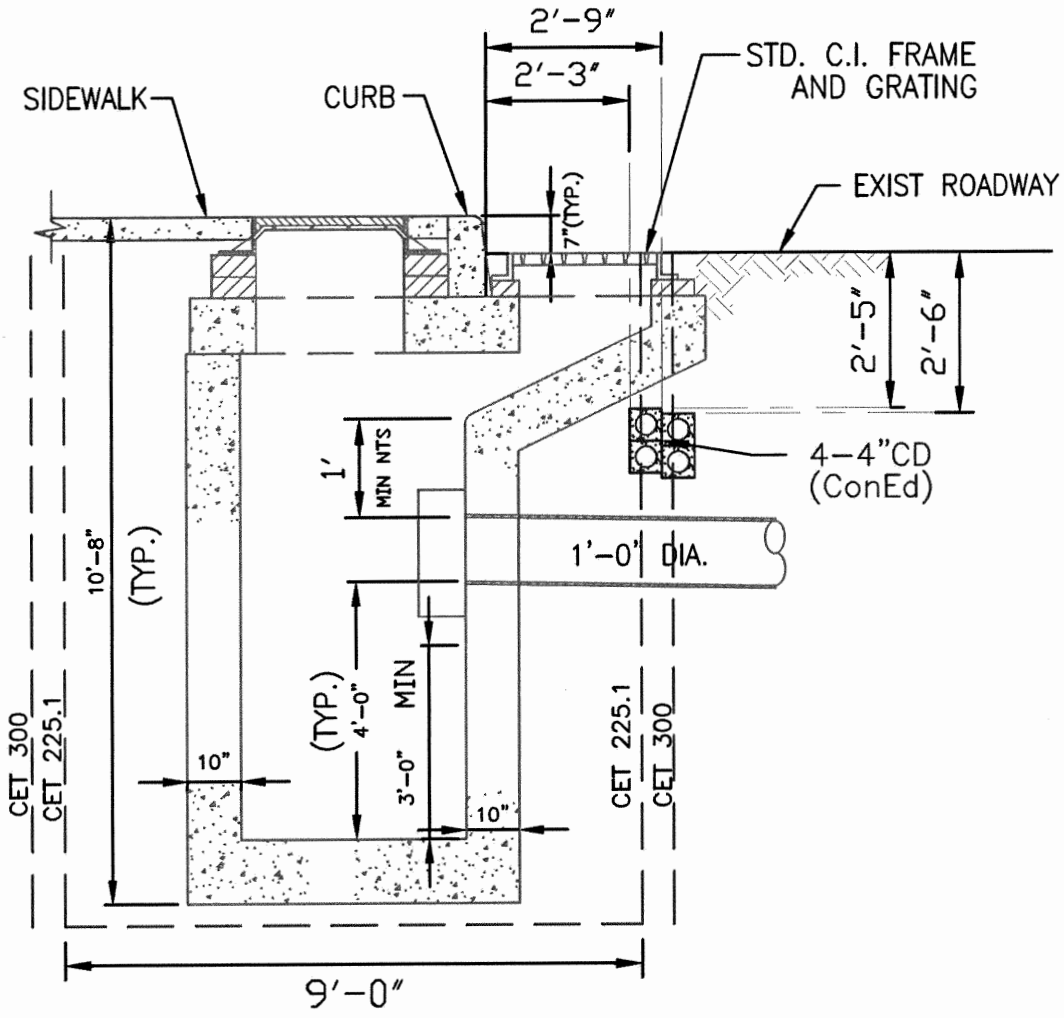
conEdison

TYPE 3 CATCH BASIN

REQD. FOR CONTRACT NO. SANDRDHK

LOCATION 3'N/S/C SUMMIT ST., 30'E/E/C IMLAY ST.

TEST PIT NO. 1 (Pkg-1)



PROFILE – LOOKING WEST

N.T.S.

conEdison

JOB NO: SANDRDHK TEST PIT # TP-3 (Pkg-1)

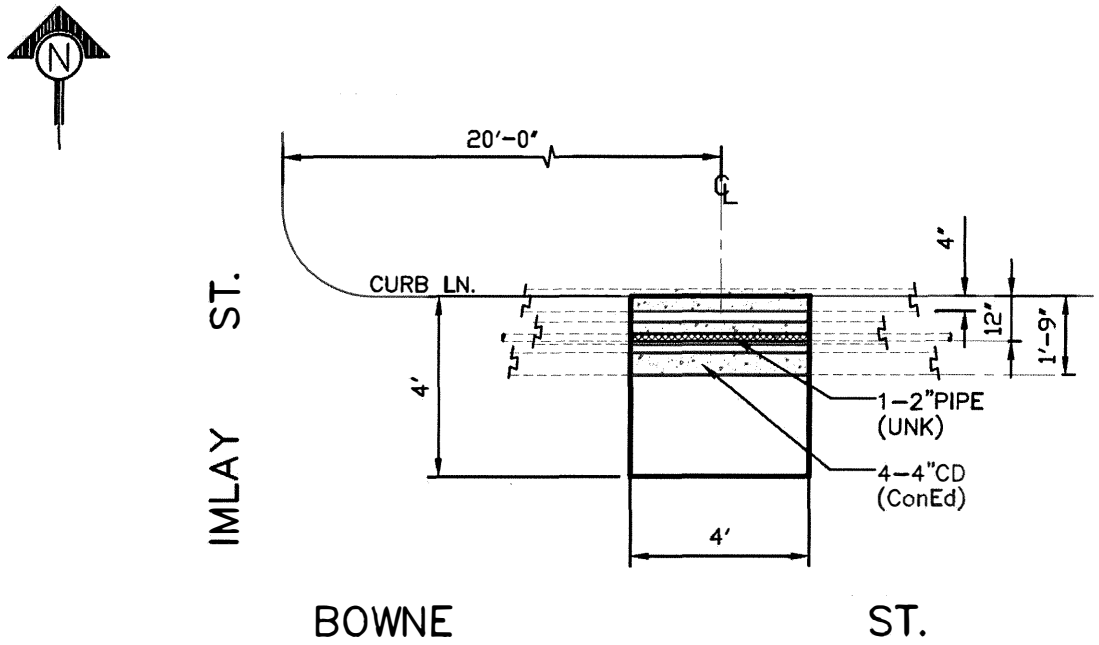
PREPARED BY: M. TORRES DATE: 10/04/23

CHECKED BY: C. ALMAN DATE: 10/30/23

JOB NAME: SANDRDHK LOCATION: 3'S/N/C BOWNE STREET

PURPOSE: TYPE 3 CATCH BASIN REQUEST 20'E/E/C IMLAY STREET

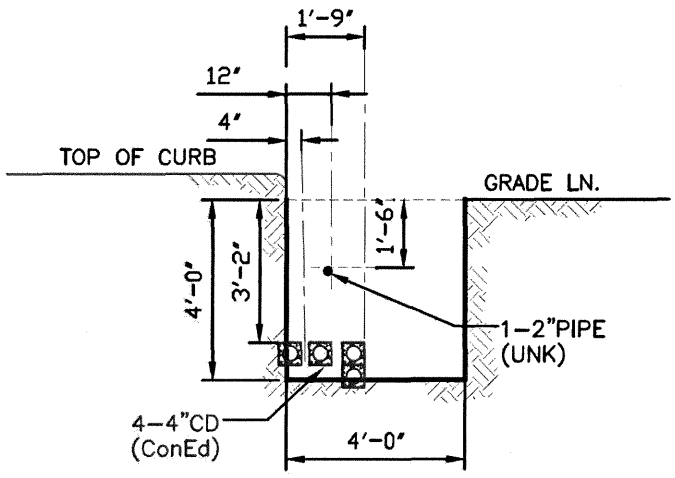
DATE OF EXCAVATION: 08/23/23 CONTRACT SHEET NO: 2 OF



PLAN

N.T.S

JB
225.1, 401, 402.1 304, 305



PROFILE – LOOKING EAST

N.T.S.

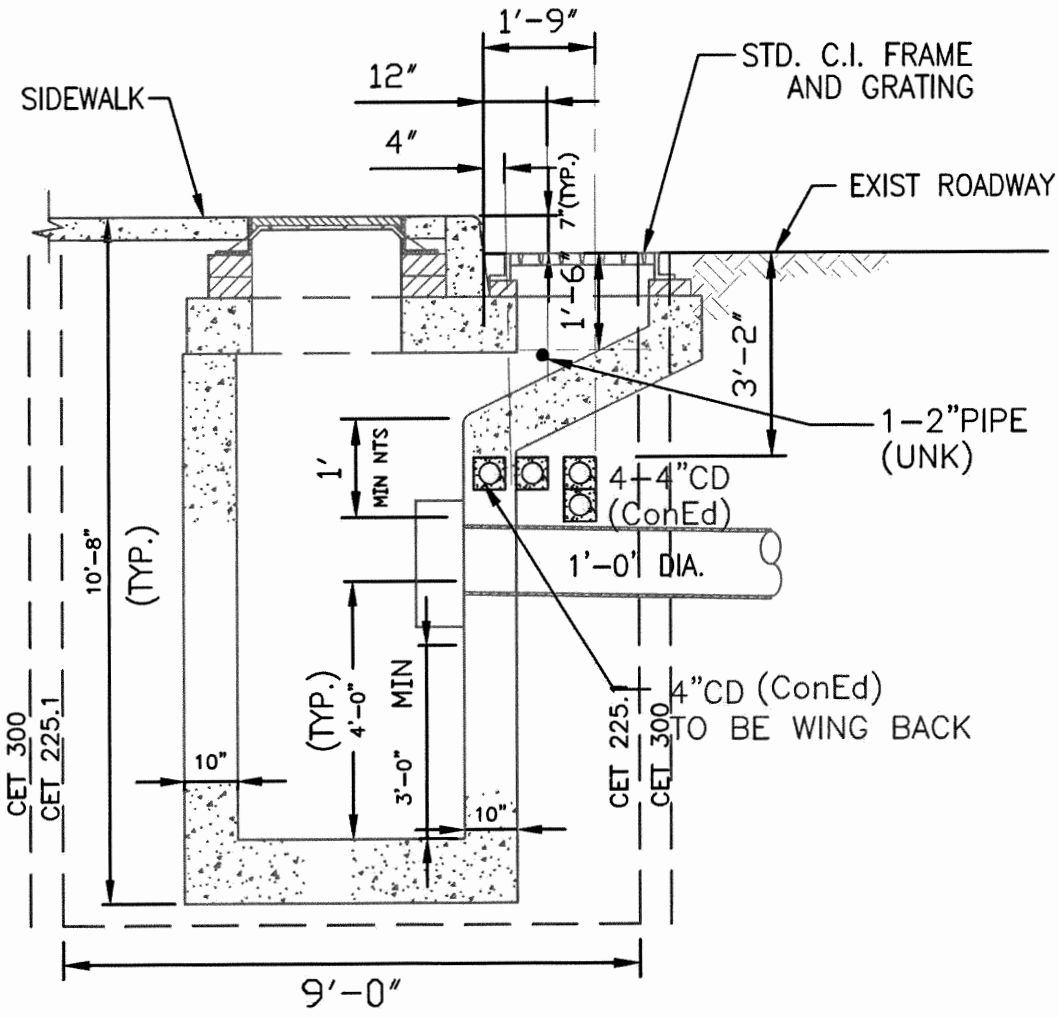
conEdison

TYPE 3 CATCH BASIN

REQD. FOR CONTRACT NO. SANDRDHK

LOCATION 3'N/S/C SUMMIT ST., 30'E/E/C IMLAY ST.

TEST PIT NO. 3 (Pkg-1)



PROFILE – LOOKING EAST

N.T.S.

conEdison

JOB NO: SANDRDHK TEST PIT # TP-4 (Pkg-1)

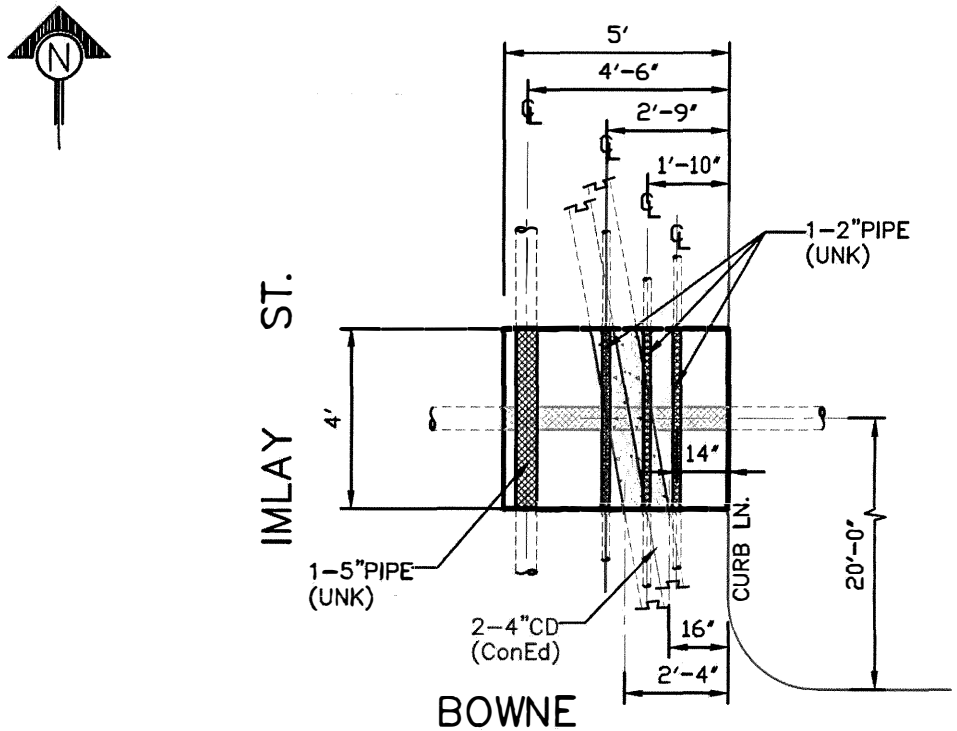
PREPARED BY: M. TORRES DATE: 10/19/23

CHECKED BY: C. ALMAN DATE: 10/30/23

JOB NAME: SANDRDHK LOCATION: 3'W/E/C IMLAY STREET

PURPOSE: TYPE 3 CATCH BASIN REQUEST 20'N/N/C BOWNE STREET

DATE OF EXCAVATION: 08/24/23 CONTRACT SHEET NO: 2 OF

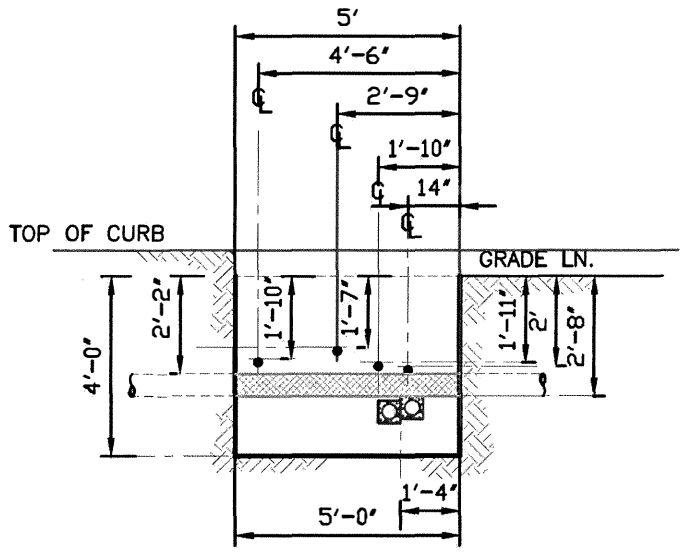


PLAN

N.T.S

JB

225



PROFILE – LOOKING NORTH

N.T.S.

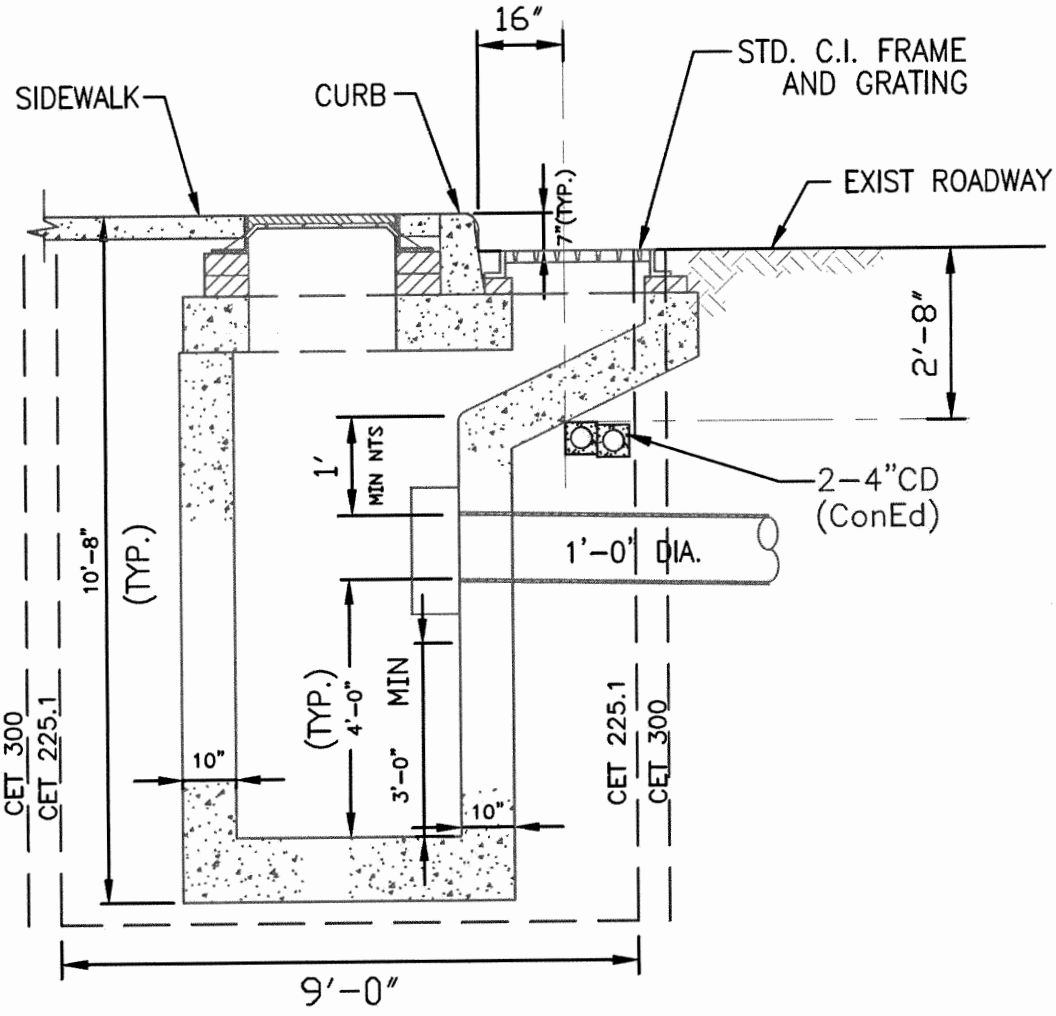
conEdison

TYPE 3 CATCH BASIN

REQD. FOR CONTRACT NO. SANDRDHK

LOCATION 3'W/E/C IMLAY ST., 20'N/N/C BOWNE ST.

TEST PIT NO. 4 (Pkg-1)



PROFILE – LOOKING NORTH

N.T.S.

conEdison

JOB NO: SANDRDHK TEST PIT # TP-5 (Pkg-1)

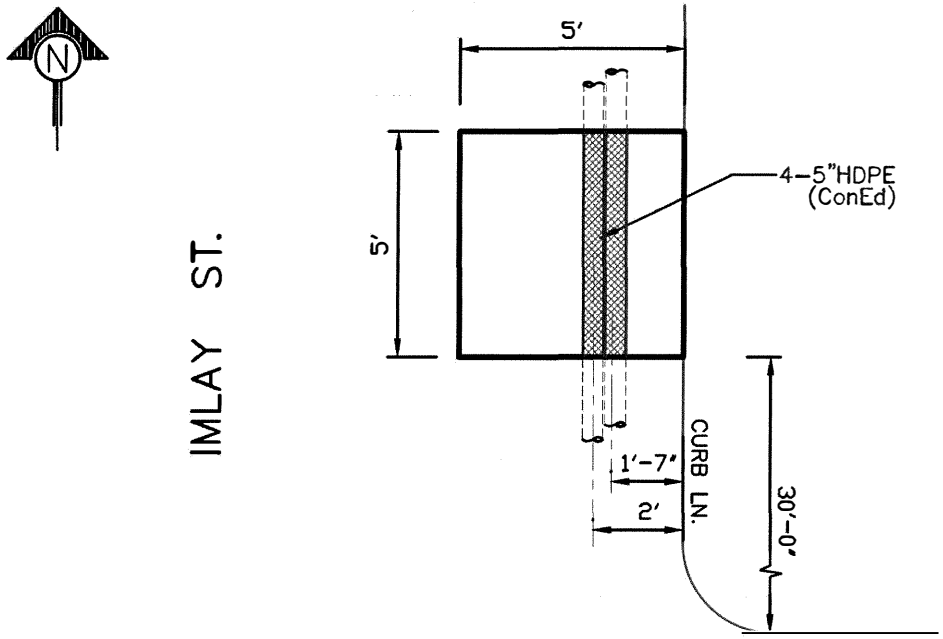
PREPARED BY: M. TORRES DATE: 10/20/23

CHECKED BY: C. ALMAN DATE: 10/30/23

JOB NAME: SANDRDHK LOCATION: 0'-5'W/E/C IMLAY STREET

PURPOSE: TYPE 3 CATCH BASIN REQUEST 15'-20'N/N/C PIONEER STREET

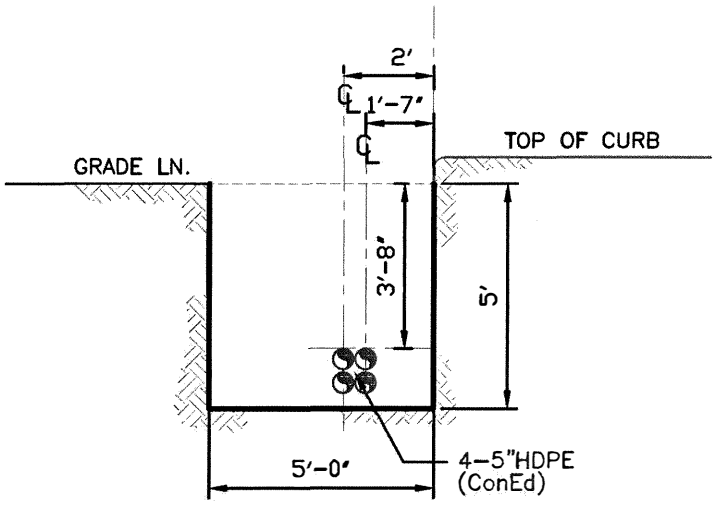
DATE OF EXCAVATION: 09/21/23 CONTRACT SHEET NO: 5 OF ____



PLAN

N.T.S

JB
200.1, 225.1



PROFILE – LOOKING NORTH

N.T.S.

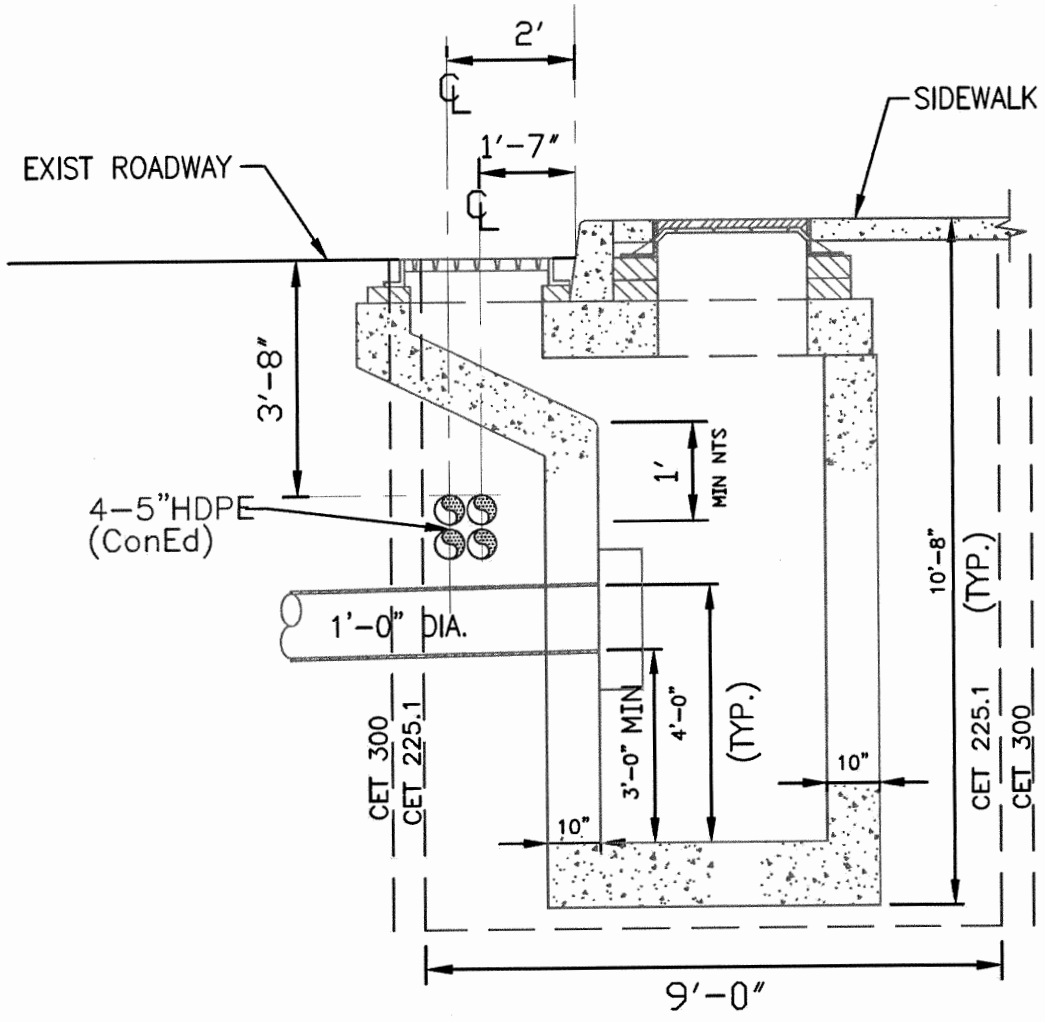
conEdison

TYPE 3 CATCH BASIN

REQD. FOR CONTRACT NO. SANDRDHK

LOCATION E/S IMLAY ST., 20'+/- N/N/C PIONEER ST.

TEST PIT NO. 5 (Pkg-1)



PROFILE – LOOKING NORTH

N.T.S.

conEdison

JOB NO: SANDRDHK TEST PIT # TP-1 (Pkg-2)

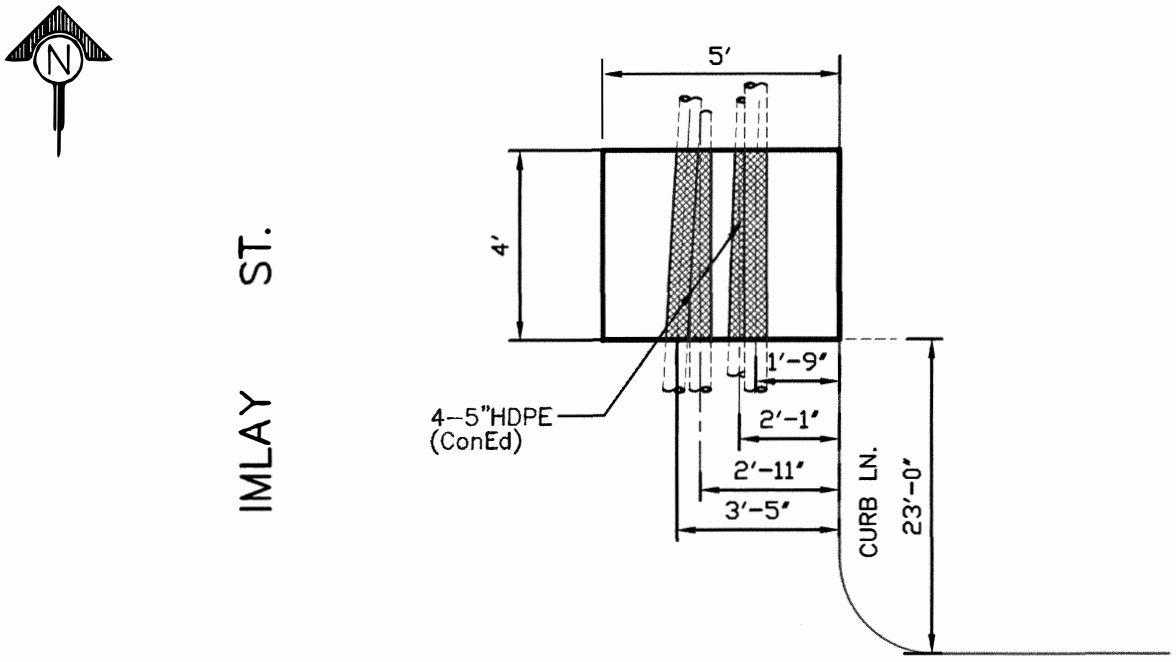
PREPARED BY: M. TORRES DATE: 11/01/23

CHECKED BY: C. ALMAN DATE: 11/03/23

JOB NAME: SANDRDHK LOCATION: 2'W/E/C IMLAY STREET

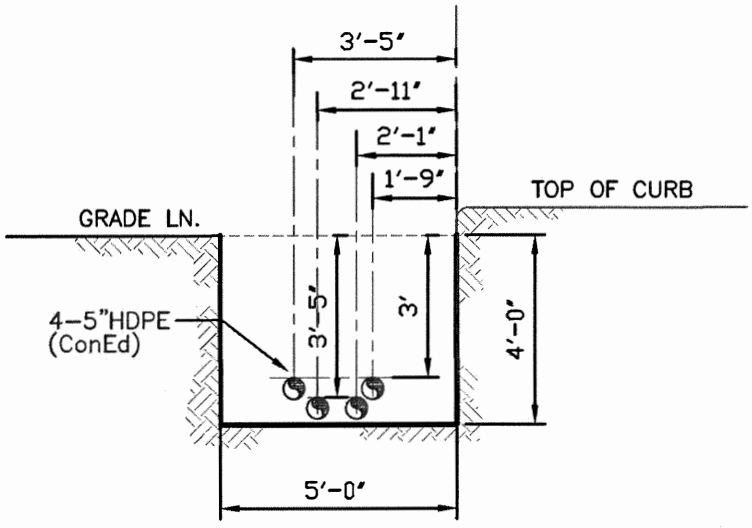
PURPOSE: TYPE 3 CATCH BASIN REQUEST 25'N/N/C VERONA STREET

DATE OF EXCAVATION: 09/14/23 CONTRACT SHEET NO: 1 OF



JB
225.1

PLAN
N.T.S



PROFILE – LOOKING NORTH
N.T.S.

JB-C10

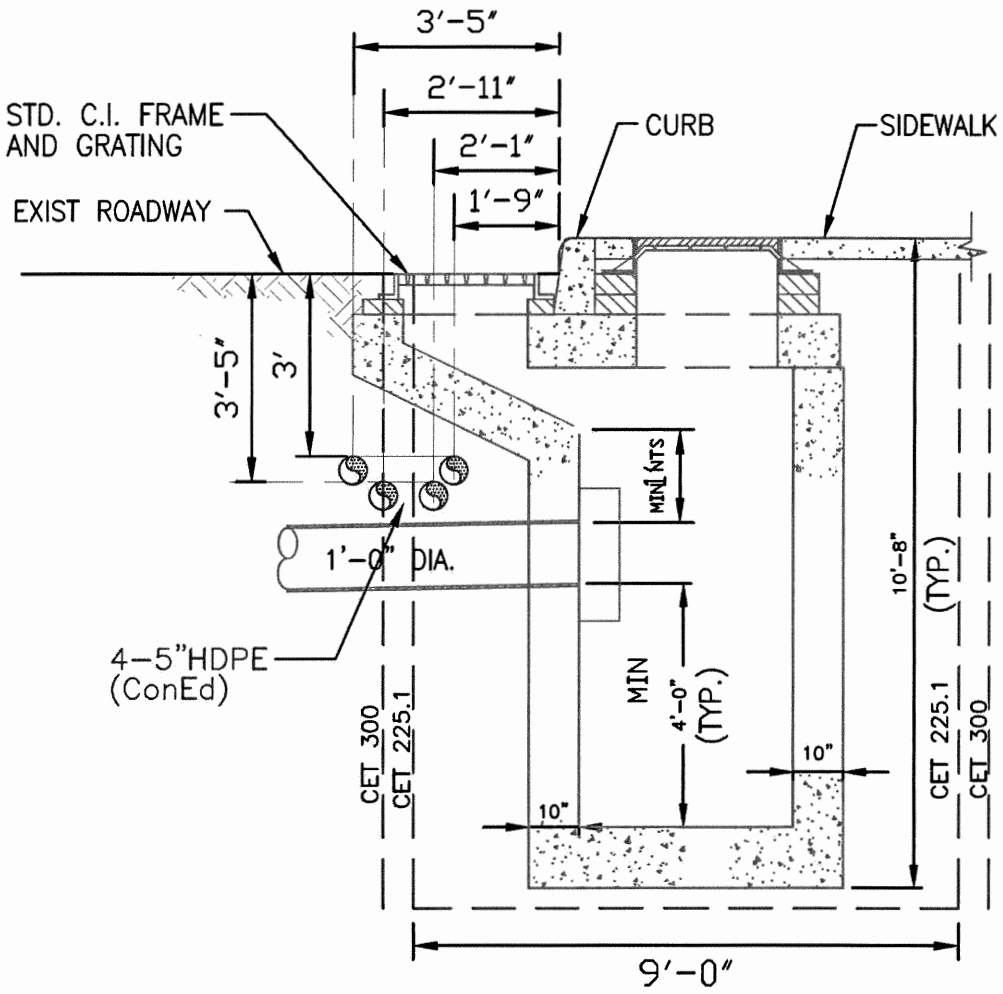
conEdison

TYPE 3 CATCH BASIN

REQD. FOR CONTRACT NO. SANDRDHK

LOCATION 2'W/E/C IMLAY ST., 25'N/N/C VERONA ST.

TEST PIT NO. 1 (Pkg-2)



PROFILE – LOOKING NORTH

N.T.S.

conEdison

JOB NO: SANDRDHK TEST PIT # TP-2 (Pkg-2)

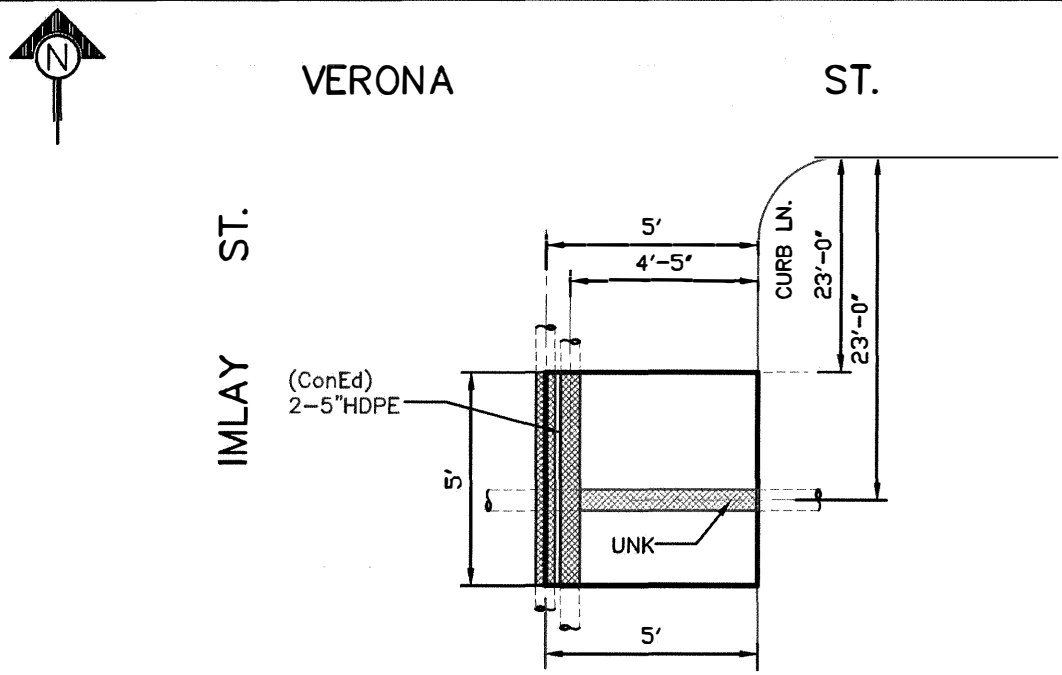
PREPARED BY: M. TORRES DATE: 11/01/23

CHECKED BY: C. ALMAN DATE: 11/03/23

JOB NAME: SANDRDHK LOCATION: 2'W/E/C IMLAY STREET

PURPOSE: TYPE 3 CATCH BASIN REQUEST 25'S/S/C VERONA STREET

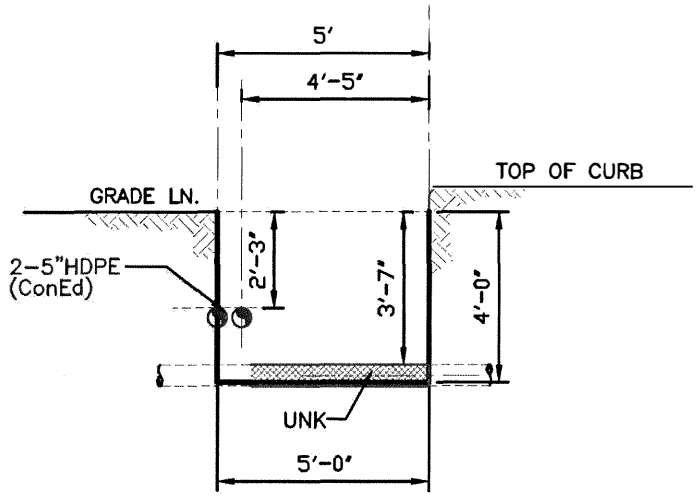
DATE OF EXCAVATION: 09/14/23 CONTRACT SHEET NO: 1 OF



PLAN

N.T.S

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225.1



PROFILE – LOOKING NORTH

N.T.S.

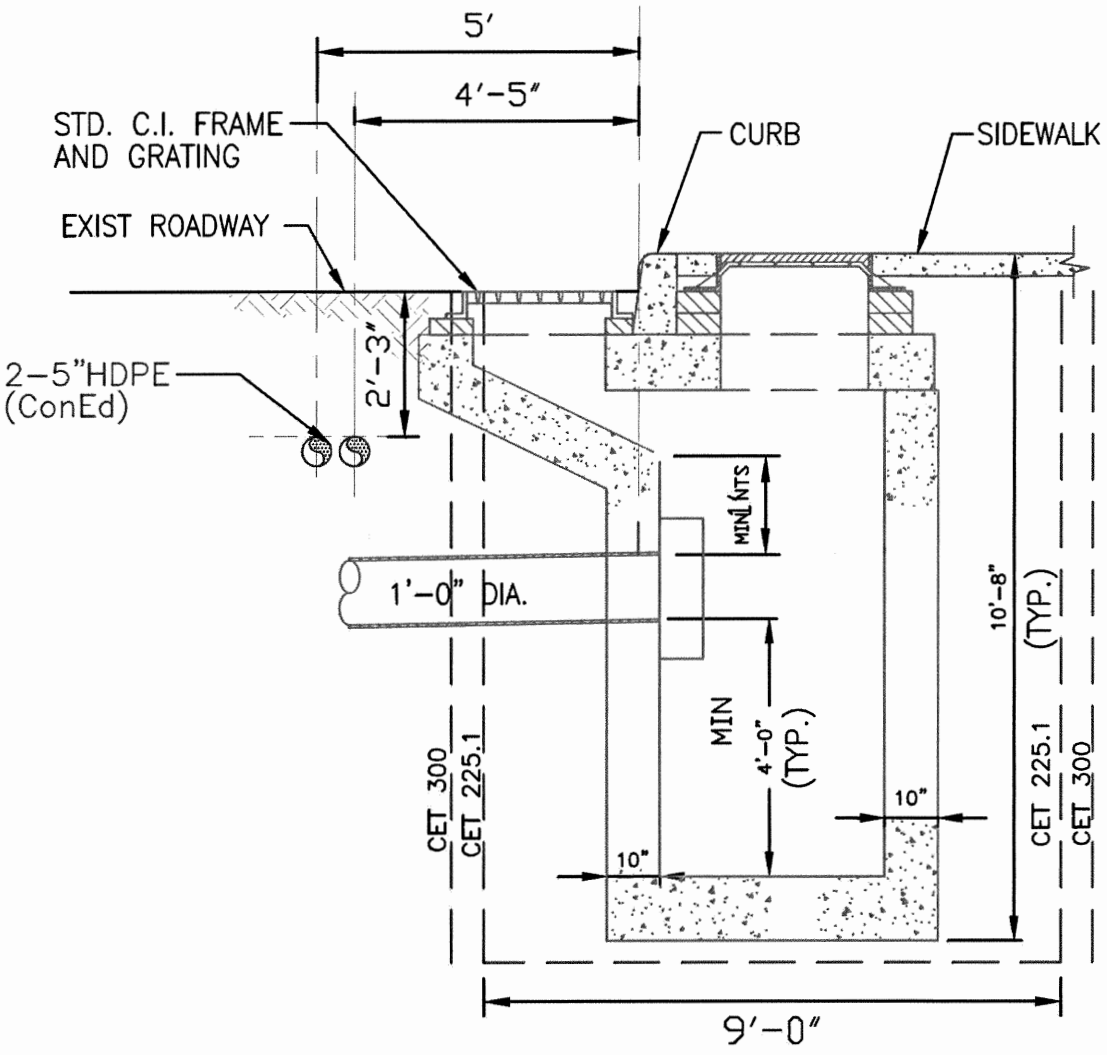
conEdison

TYPE 3 CATCH BASIN

REQD. FOR CONTRACT NO. SANDRDHK

LOCATION 2'W/E/C IMLAY ST., 25'S/S/C VERONA ST.

TEST PIT NO. 2 (Pkg-2)



PROFILE – LOOKING NORTH

N.T.S.

conEdison

JOB NO: SANDRDHK TEST PIT # TP-4 (Pkg-2)

PREPARED BY: M. TORRES DATE: 11/01/23

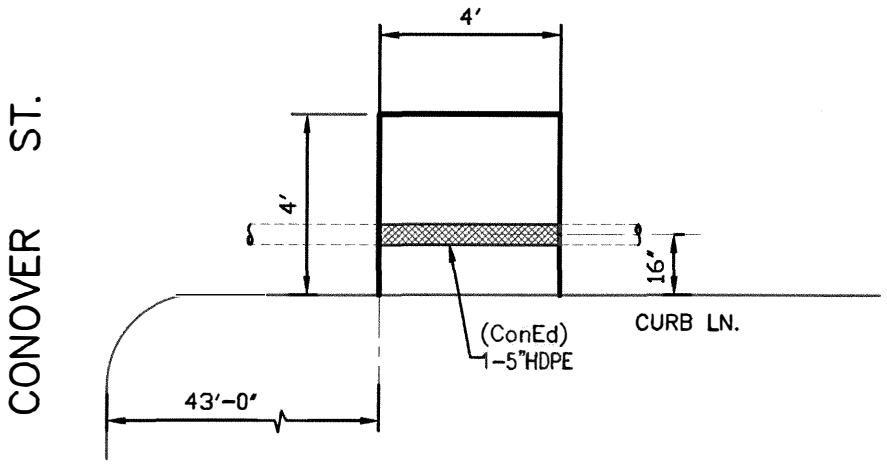
CHECKED BY: C. ALMAN DATE: 11/03/23

JOB NAME: SANDRDHK LOCATION: 2'N/S/C REED STREET

PURPOSE: TYPE 3 CATCH BASIN REQUEST 45'E/E/C CONOVER STREET

DATE OF EXCAVATION: 09/15/23 CONTRACT SHEET NO: 1 OF

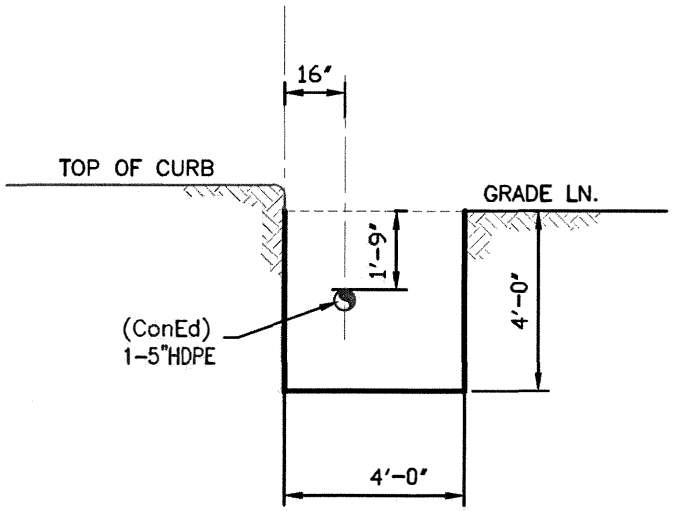




PLAN

N.T.S

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225.1



PROFILE – LOOKING WEST

N.T.S.

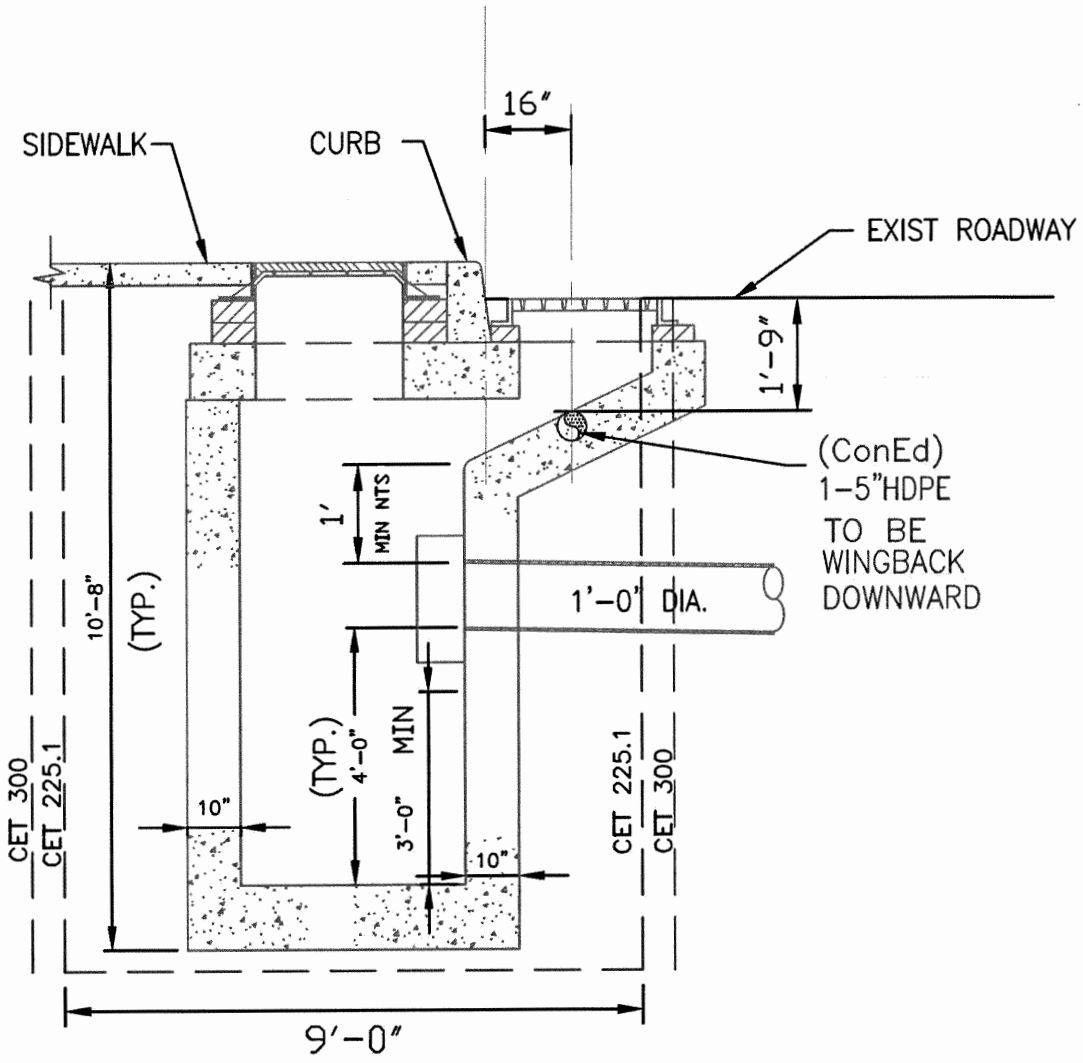
conEdison

TYPE 3 CATCH BASIN

REQD. FOR CONTRACT NO. SANDRDHK

LOCATION 2'N/S/C REED ST., 45'E/E/C CONOVER ST.

TEST PIT NO. 4 (Pkg-2)



PROFILE – LOOKING WEST

N.T.S.

conEdison

JOB NO: SANDRDHK TEST PIT # TP-11 (Pkg-1)

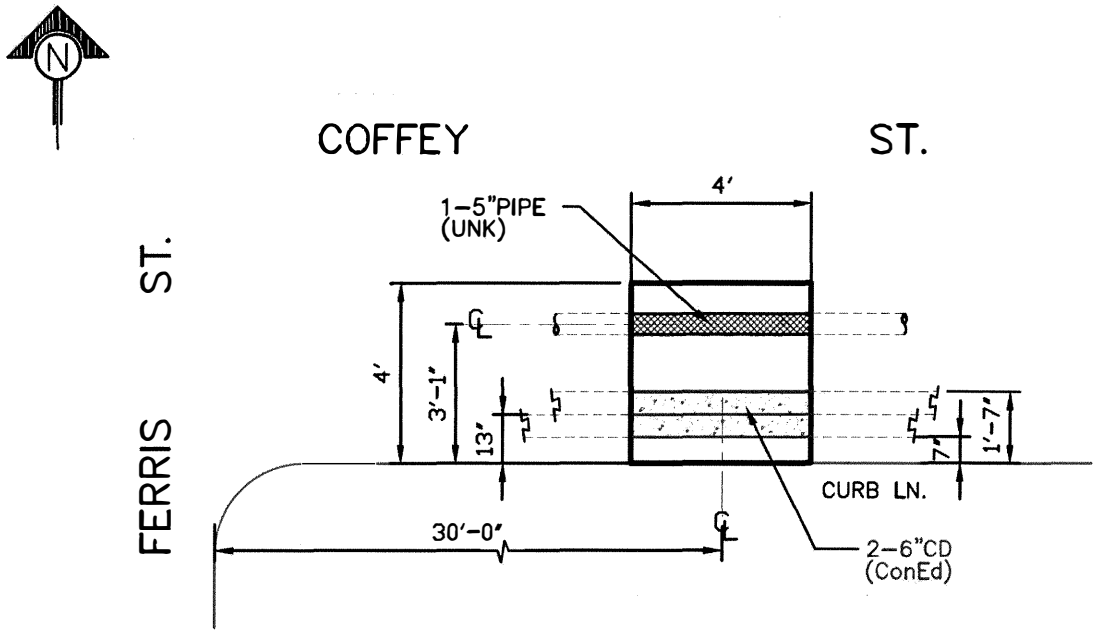
PREPARED BY: M. TORRES DATE: 10/20/23

CHECKED BY: C. ALMAN DATE: 10/30/23

JOB NAME: SANDRDHK LOCATION: 3'N/S/C COFFEY STREET

PURPOSE: TYPE 3 CATCH BASIN REQUEST 30'E/E/C FERRIS STREET

DATE OF EXCAVATION: 08/25/23 CONTRACT SHEET NO: 12 OF

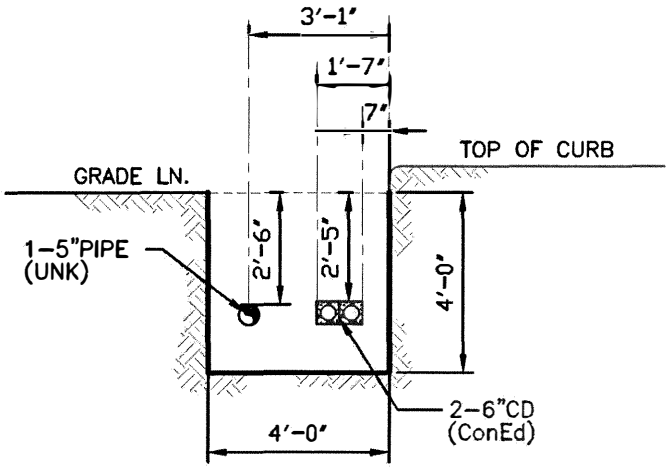


JB

225,
401, 402.1,
304, 305

PLAN

N.T.S



PROFILE – LOOKING EAST

N.T.S.

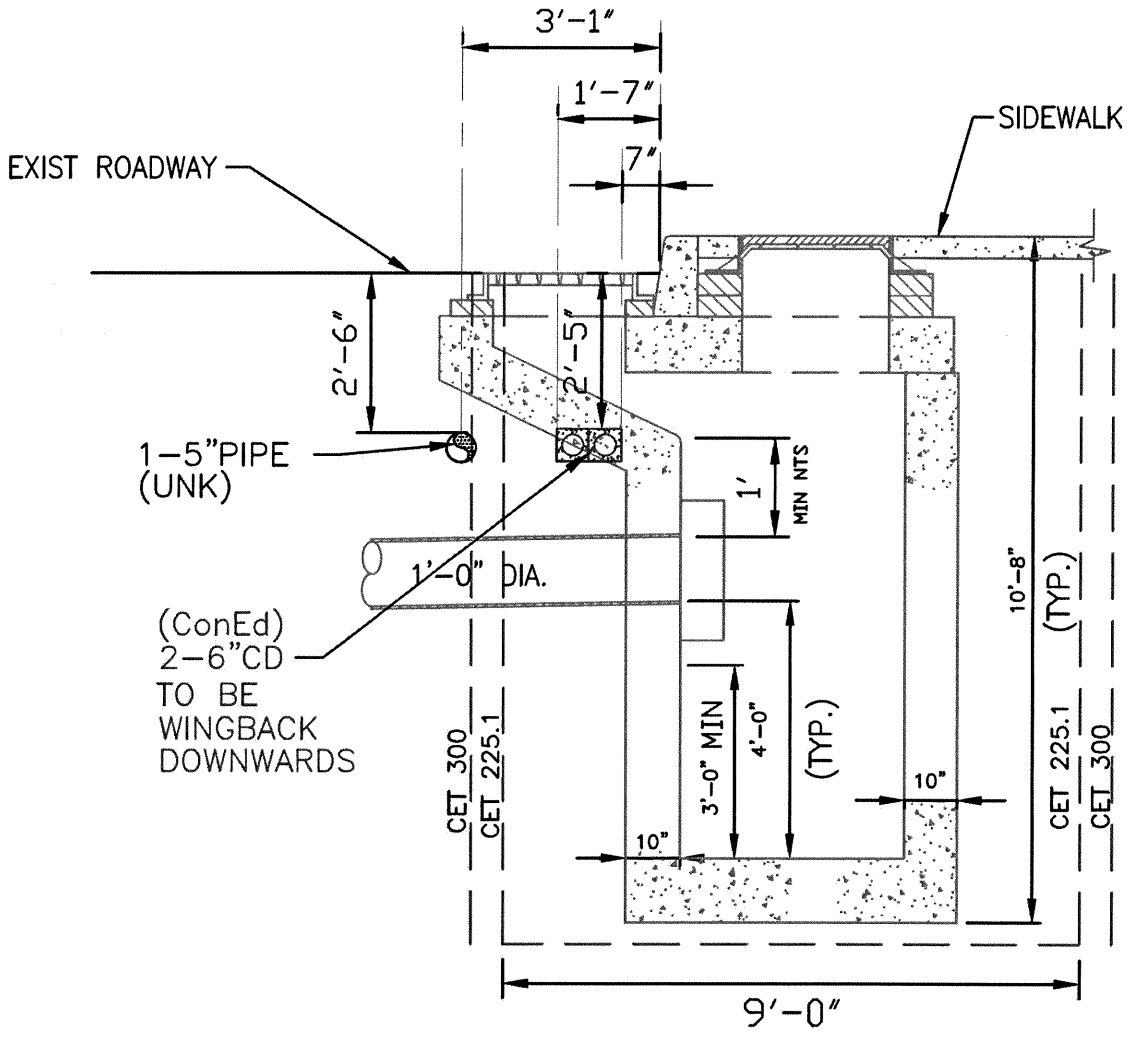
conEdison

TYPE 3 CATCH BASIN

REQD. FOR CONTRACT NO. SANDRDHK

LOCATION 3'N/S/C COFFEY ST., 30'E/E/C FERRIS ST.

TEST PIT NO. 11 (Pkg-1)



PROFILE – LOOKING EAST

N.T.S.

conEdison

JOB NO: SANDRDHK TEST PIT # TP-5 (Pkg-2)

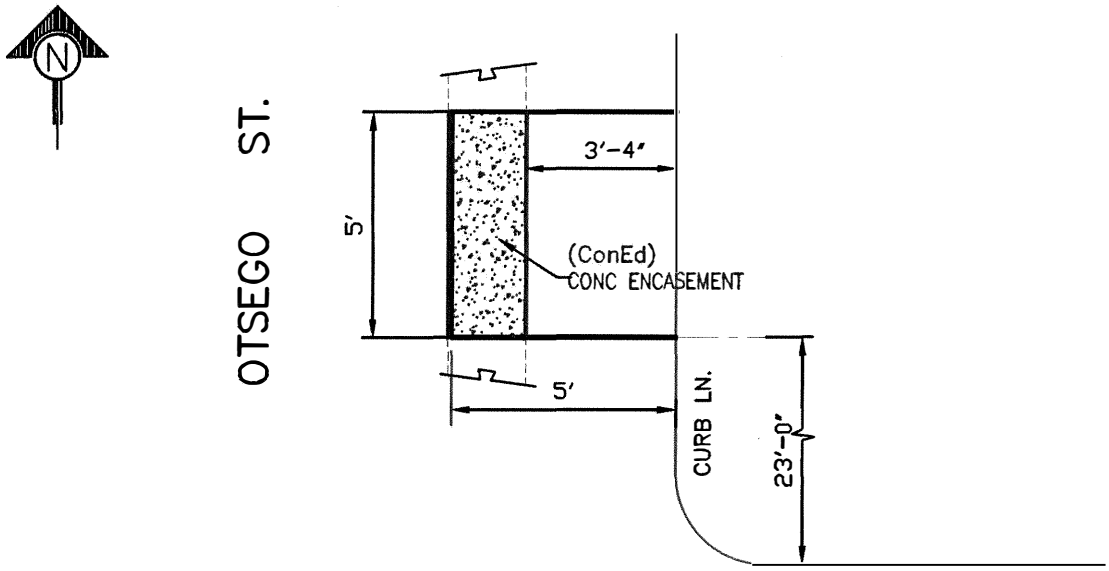
PREPARED BY: M. TORRES DATE: 11/01/23

CHECKED BY: C. ALMAN DATE: 11/03/23

JOB NAME: SANDRDHK LOCATION: 2'W/E/C OTSEGO STREET

PURPOSE: TYPE 3 CATCH BASIN REQUEST 25'N/N/C HALLECK STREET

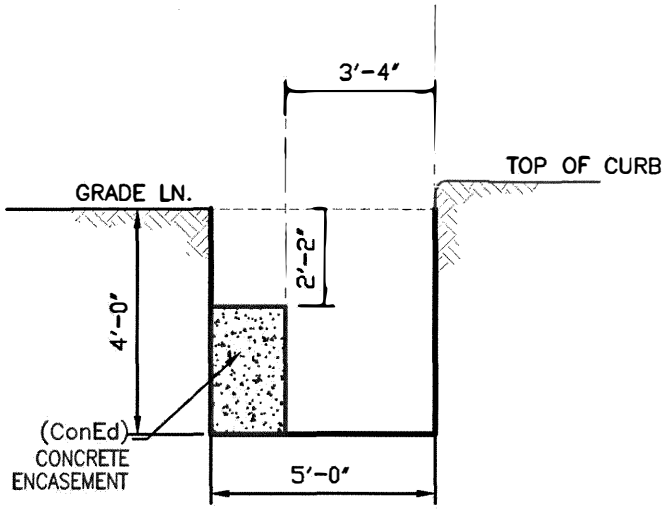
DATE OF EXCAVATION: 09/15/23 CONTRACT SHEET NO: 1 OF



PLAN

N.T.S

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PROFILE – LOOKING NORTH

N.T.S.

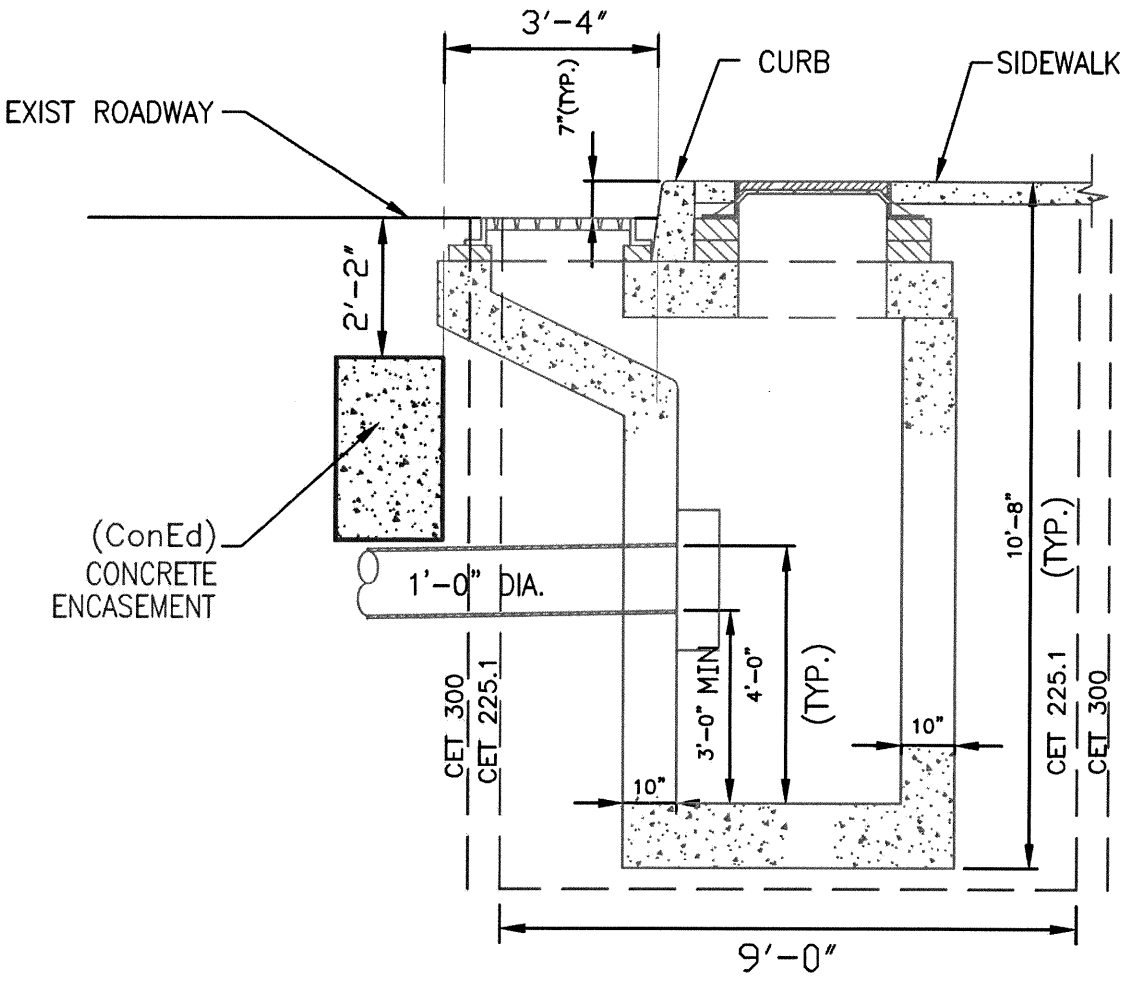
conEdison

TYPE 3 CATCH BASIN

REQD. FOR CONTRACT NO. SANDRDHK

LOCATION 2'W/E/C OTSEGO ST., 25'N/N/C HALLECK ST.

TEST PIT NO. 5 (Pkg-2)



PROFILE – LOOKING NORTH

N.T.S.

conEdison

JOB NO: SANDRDHK TEST PIT # TP-9 (Pkg-2)

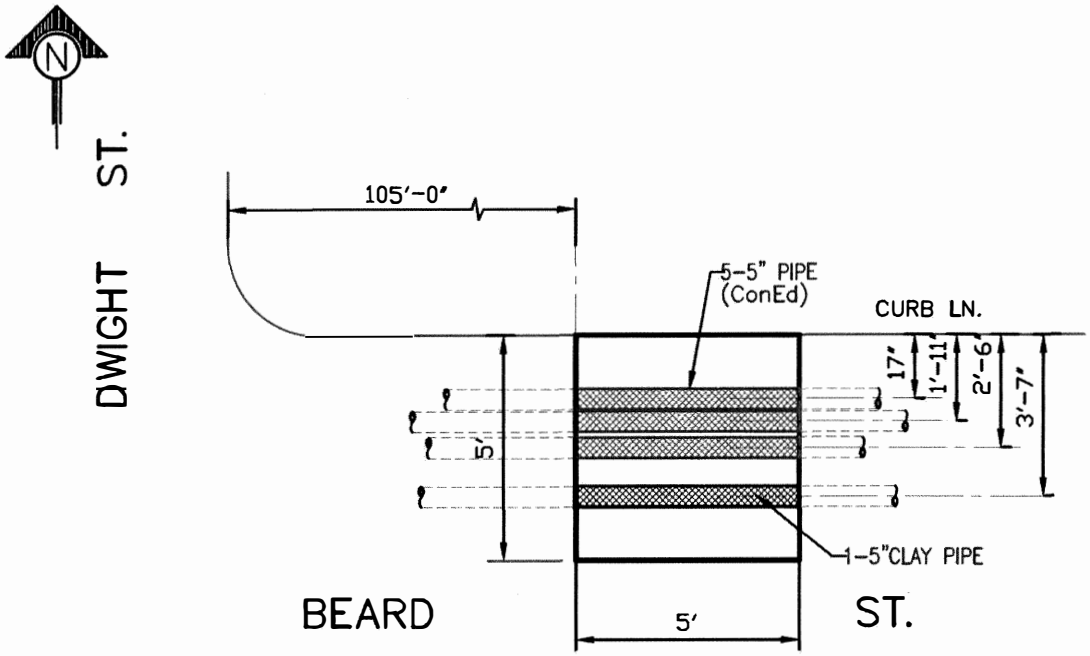
PREPARED BY: M. TORRES DATE: 11/01/23

CHECKED BY: C. ALMAN DATE: 11/03/23

JOB NAME: SANDRDHK LOCATION: 3'S/N/C BEARD STREET

PURPOSE: TYPE 3 CATCH BASIN REQUEST 105"E/E/C DWIGHT STREET

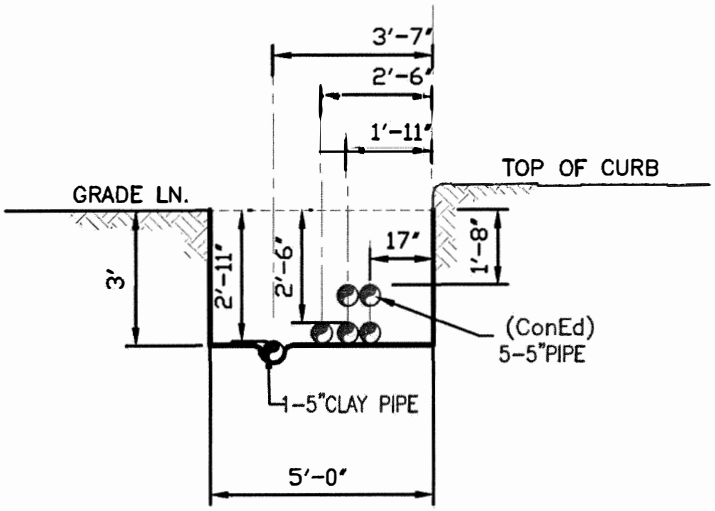
DATE OF EXCAVATION: 09/21/23 CONTRACT SHEET NO: 1 OF



PLAN

N.T.S

JB
225.1, 401, 402



PROFILE – LOOKING WEST

N.T.S.

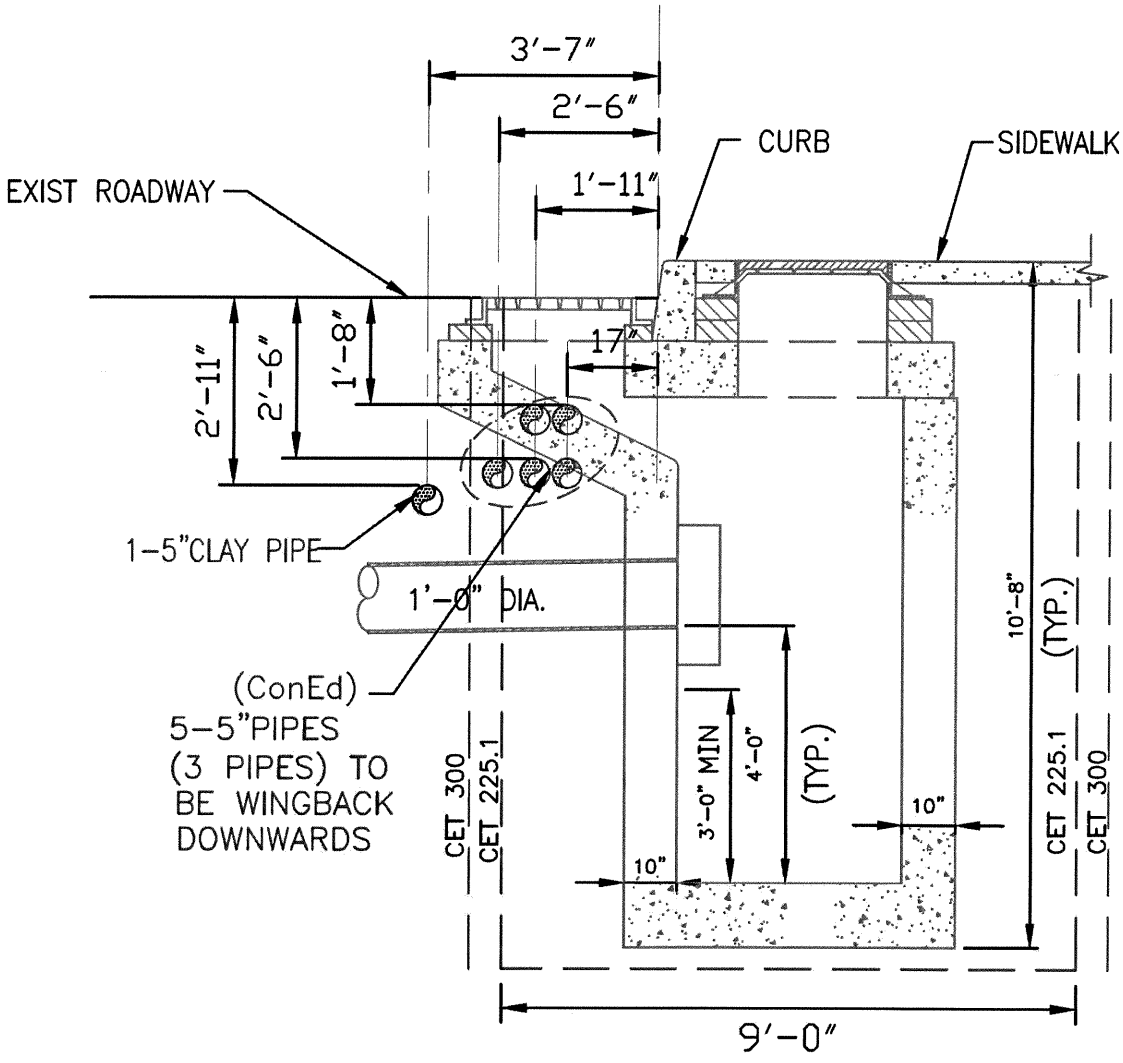
conEdison

TYPE 3 CATCH BASIN

REQD. FOR CONTRACT NO. SANDRDHK

LOCATION 3'S/N/C BEARD ST., 105'E/E/C DWIGHT ST.

TEST PIT NO. 9 (Pkg-2)



PROFILE – LOOKING WEST

N.T.S.

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JOB NO: SANDRDHK TEST PIT # TP-11 (Pkg-2)

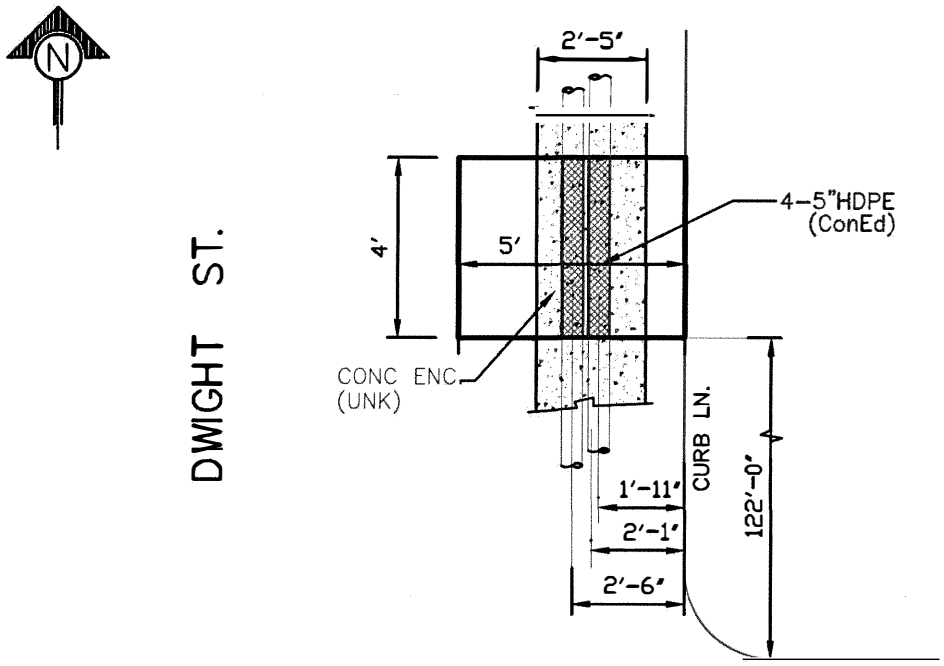
PREPARED BY: M. TORRES DATE: 11/13/23

CHECKED BY: C. ALMAN DATE: 11/14/23

JOB NAME: SANDRDHK LOCATION: 0'-5'W/E/C DWIGHT STREET

PURPOSE: TYPE 3 CATCH BASIN REQUEST 120'-124'N/N/C BEARD STREET

DATE OF EXCAVATION: 10/27/23 CONTRACT SHEET NO: 18 OF

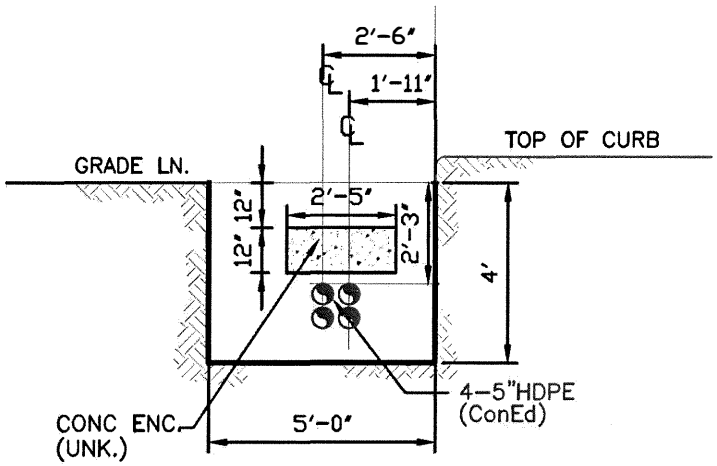


PLAN

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PROFILE – LOOKING NORTH

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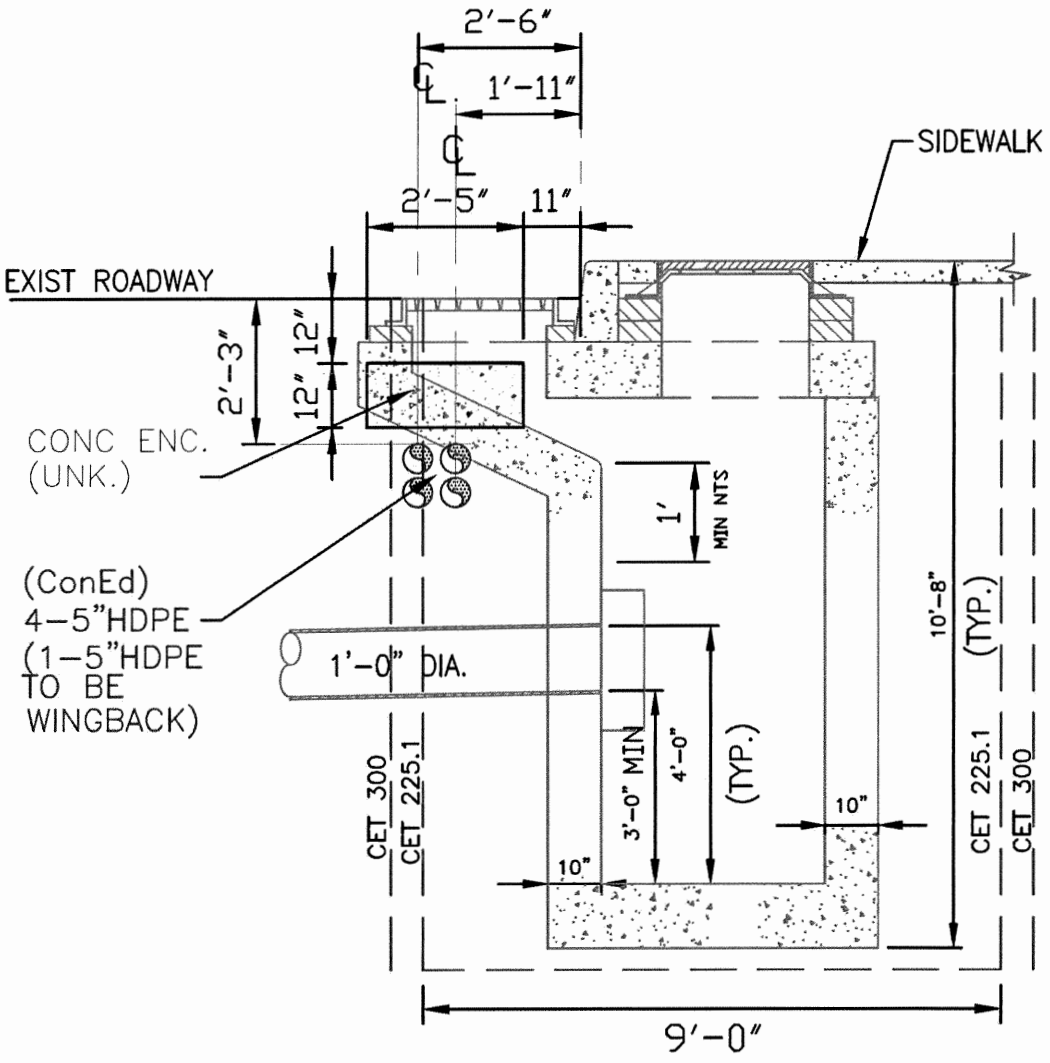
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TYPE 3 CATCH BASIN

REQD. FOR CONTRACT NO. SANDRDHK

LOCATION E/S DWIGHT ST., 122'+/- N/N/C BEARD ST.

TEST PIT NO. 11 (Pkg-2)



PROFILE – LOOKING NORTH

N.T.S.

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Guideline Document for Public Improvement

CONST- 029 Revision Number 5

Purpose: To update the Public Improvement Contractor Guideline document for safe work practices on Con Edison underground electric systems.

Revision Date: 11-01-2022 Next Revision Due Date: 11-01-2027

Supersedes Date: 7-30-2020 Revision Cycle Period: Once every 5 years

TYPE	NAME	DATE
EH&S	Glenn D. Newell	11/01/2022
Technical	S. Bux & E. Chiarelli	11/01/2022
Legal	Joeann Walker	11/01/2022

Summary of Changes:
1. Updated/Revised All Sections
2. Added New Appendices A & B

Training Requirements - N/A

DOJT/Course #, etc. Associated with this Operating Document:
None

Subject Matter Expert: Eduardo Chiarelli Approved Date: 11/01/2022 E. Chiarelli 11/3/2022

Approver Name: Cherno Cham Approved Date: 11/01/2022 11/03/2022

Paper copies of Operating Documents are uncontrolled and therefore may be outdated. Verify current version prior to use.

Consolidated Edison Company of New York, Inc.

Guideline

For

Safe Entry into Sub-Surface Structures (Electrical Enclosed Space),

Moving Energized Underground Cables

Removal of Conduit from Cables, and

Sub-Surface Structure Break Out, Rebuild & Breaking Out a Point of Entry (POE's) Into Sub-Surface Structures

Performed by

Municipal Contractors

Table of Contents

1.0 Definitions 4
1.1 Competent Person 4
1.2 Attendant 4
1.3 Electrical Enclosed Space 4
1.4 CET Specification 4
1.5 JB Specification 4
1.6 Public Improvement Representative 4
1.7 Municipal Contractor 4
1.8 Electrically Competent Qualified Municipal Contractor 4
2.0 References 5
2.1 OSHA Section 1910.269 5
2.2 Training 5
3.0 Safe Entry into Sub-Surface Structures, (Electrical Enclosed Space) 6
3.1 Purpose 7
3.2 Application 7
3.3 Guideline 7
3.4 Inspection/Testing 7
3.5 Job Briefing 8
3.6 Attendants 8
3.7 Hazardous Atmosphere 8
3.8 Personal Protective Equipment 8
3.9 Con Edison Personal Protective Equipment Guideline 8
3.10 Access 9
4.0 Removal of Conduit from Cables, Moving Energized Underground Cables & Working in Open Trenches / Excavations that Contain a D-Fault. 9
4.1 Purpose 10
4.2 Application 10
4.3 Guideline 10
4.4 Job Briefing 10
4.5 Removal of Conduit from Cables 10
4.6 Visual Inspection 14
4.7 Cable Moving Operations 14
4.8 Working in Open Trenches/Excavations that Contain an Energized a D-Fault 16
4.9 Personal Protective Equipment 16
5.0 Sub-Surface Structure Break Out/Rebuild or Breaking Out a Point of Entry (POE's) in an Electrical Enclosed Space 16
5.1 Activities Prior to Sub-Surface Structure Break Out, Rebuild or Creating POE's. 17
5.2 Structure or POE Break Out Operations 17

APPENDIX – A – Breaking Out Conduit Checklist, On-the-Job Training (OJT) & Video 19
Appendix B – PI Check Point Tasks..... 28

1.0 Definitions

1.1 **Competent Person** – As a general rule, a Competent Person is an individual who, by way of training and/or experience, is knowledgeable of OSHA and other applicable standards, can identify workplace hazards relating to the specific operation and is designated by the employer with the authority to take all appropriate actions necessary to comply with all applicable standards and take prompt corrective measures to eliminate the hazards. Some OSHA standards add additional specific requirements that must be met by the Competent Person.

1.2 **Attendant** – An authorized individual who is stationed outside a sub-surface structure or an Electrical Enclosed Space to monitor the authorized entrants and to perform duties assigned including aiding individual(s) inside the sub-surface structure or Electrical Enclosed Space.

1.3 **Electrical Enclosed Space** – OSHA defines an Electrical Enclosed Space as a working space, such as a manhole, vault, tunnel, service box, or shaft, used for the operation and maintenance of electric power generation, transmission, and distribution lines and equipment. An Electrical Enclosed Space has a limited means of egress or entry and is designed for periodic entry under normal operating conditions. Under normal conditions, an Electrical Enclosed Space does not contain a hazardous atmosphere but may contain a hazardous atmosphere under abnormal conditions.

1.4 **CET Specification** – CET Specification defining private utility work within Municipal Construction Contracts.

1.5 **JB Specification** – Joint Bid specification defining private utility work within a NYC DDC Capital contract.

1.6 **Public Improvement Representative** – Con Edison employee, (Inspector, Construction Representative, Chief Construction Inspector, Project Specialist, or Manager) assigned to the Public Improvement section.

1.7 **Municipal Contractor** – Construction municipal contractor performing work for Municipal, State or other Public Agencies or Authorities.

1.8 **Electrically Competent Qualified Municipal Contractor** – is a Municipal Contractor employee designated and documented by the Municipal Contractor employer, in writing, as the electrically competent and qualified person who, by way of training and/or experience has the skills and techniques necessary to distinguish exposed live parts from other parts of electrical equipment, can identify non-insulated conductors from insulated conductors and/or cables and has the knowledge of the precautionary techniques, personal protective equipment, insulating and shielding materials, and insulated tools that are required for working on or near exposed energized electrical equipment. The Electrically Competent Qualified Municipal Contractor (ECQMC) employee can identify varying workplace electrical hazards relating to the specific operation and has the authority to take appropriate actions, as required. To meet the task specific qualifications of this guideline, the ECQMC employee must be familiar with this document, be able to demonstrate adherence, conduct job briefings and be present during critical tasks and/or operations to ensure that all crew members understand hazards associated with the job, work

procedures involved, special precautions, energy source controls and personal protective equipment requirements. The ECQMC should be onsite during the performance of all tasks in which ECQMC employees may be exposed to electrical hazards either noted in applicable sections of this guideline and/or listed in Appendix B – PI Check Point Tasks.

2.0 References

2.1 OSHA Section 1910.269 – Electric Power Generation, Transmission & Distribution & 1926 Subpart V –Electric Power Transmission and Distribution

2.2 Training

The OSHA Office of Training and Education (OTE) develops, directs, oversees, manages and ensures implementation of OSHA's national training and education policies and programs in support of OSHA's strategic goals with the objective of reducing occupational hazards through direct intervention, promoting a safety and health culture through compliance assistance, cooperative programs and strong leadership and maximizing OSHA effectiveness and efficiency by strengthening capabilities and infrastructure.

All Municipal Contractor employees shall be trained in and familiar with the safety-related work practices, safety procedures, and other safety requirements in section 1910.269(a)(2) and 1926 Subpart V that pertains to the Municipal Contractor employees' respective job assignments. Municipal Contractor employees shall also be trained in and familiar with any other safety practices, including emergency procedures, such as manhole rescue, that are not specifically addressed by this referenced section but that is related to their work and is necessary for their safety.

Con Edison manhole inspection and underground awareness training can be scheduled through the Con Edison TLC upon request of the municipal contractor. OSHA 10 certification cards and CPR / First Aid training are prerequisites.

2.2.1 Electrically Competent Qualified municipal contractors shall also be trained and competent in:

a- The skills and techniques necessary to distinguish exposed live parts from other parts of electrical equipment

b- The skills and techniques necessary to determine exposed live parts from other parts, (determination of non-insulated conductors from insulated conductors / cables).

c- The knowledge of the precautionary techniques, personal protective equipment, insulating and shielding materials, and insulated tools that are required for working on or near exposed energized parts of electrical equipment. Generally, the Municipal Contractor will not be required to work on or near exposed/non-insulated energized parts of electrical equipment or cables. In the event special conditions exist requiring working near exposed/non insulated energized parts of electrical equipment or

cables, the Municipal Contractor shall cease working and immediately contact the authorized Con Edison Inspector so that a further assessment of the condition can be evaluated, and appropriate guidance provided.

d- The Electrically Competent Qualified Municipal Contractor employee shall determine, through regular supervision and through inspections conducted on at least an annual basis that each Municipal Contractor employee is complying with the safety-related work practices outlined in this guidance document. Prior to entry into structures outlined in this procedure, the ECQMC employee shall ensure that any employee entering is trained and qualified.

2.2.2 A Municipal Contractor employee shall receive additional training (or retraining) by the Electrically Competent Municipal Contractor under any of the following conditions:

a- If the Electrically Competent Qualified Municipal Contractor employee indicates that the Municipal Contractor employee is not complying with safety-related work practices

b- If new technology, new types of equipment, or changes in procedures necessitate the use of safety-related work practices that are different from those which the Municipal Contractor employee would normally use

c- If the Municipal Contractor employee must employ other safety-related work practices that are not normally used or that require modification from those stated in this guidance document

Note: OSHA requires retraining before commencing with a task that has not been performed within one year.

The required training shall be of the classroom and/or on-the-job type. The training shall establish Municipal Contractor proficiency in the work practices required and shall introduce the procedures necessary for compliance. The Electrically Competent Qualified Municipal Contractor shall certify that each Municipal Contractor employee has received the training required and retains records of this training to be supplied upon request by Con Edison.

3.0 Safe Entry into Sub-Surface Structures, (Electrical Enclosed Space)

All subsurface electric cable systems and related components shall be considered to be energized until they have been verified as being de-energized by qualified Con Edison electrical personnel. Prior to the state of conduit removal operations, the identity and content of the facility (conduit and cable contained therein) shall be

verified utilizing applicable Con Edison maps & plates. In case of any safety concern, the option of de-energizing shall be discussed with the PI Representative. Caution shall always be employed whenever conduits are opened to expose the interior, even if the Con Edison maps and plates indicate no live facilities.

3.1 Purpose

To establish a guideline that shall be employed for safe entry into Con Edison sub-surface structures by Municipal Contractors.

3.2 Application

Municipal Contractor personnel

3.3 Guideline

This guideline provides the requirements for practices that shall be employed for safe entry into Con Edison sub-surface structures. Municipal Contractor personnel requiring entry into Con Edison sub-surface structures shall adhere to this guideline.

3.4 Inspection/Testing

Prior to entry into a Con Edison sub-surface structure, properly trained and qualified Con Edison electrical personnel must conduct an inspection. The inspection will determine if the condition of the electrical facilities contained therein is sufficient to allow need based unrestricted access. The Con Edison electrical personnel will communicate to both PI Representative and to the ECQMC personnel any safety precautions to be taken and that the subsurface structure is safe for entry and document such findings. Any condition deemed to be un-safe through this formal inspection process would preclude granting access.

An inspection must take place daily prior to Municipal Contractor entry. Once the cover is placed on the electric subsurface structure another inspection must occur prior to Municipal Contractor entry unless the ECQMC has met the requirements outlined in Section 4.7.a. Inspections include but are not limited to:

1) Testing for stray voltage by a qualified Con Edison employee or an ECQMC employee who has completed applicable Con Edison training courses.

2) Completion of atmospheric testing.

3) Determination that it is safe to enter the space.

4) A visual inspection for any abnormalities previously defined.

5) Communication of inspection results and hazards to the Con Edison inspectors and the municipal contractor supervisor.

6) A copy of the underground inspection form can be reviewed in the field with the PI Representative in consultation with the qualified Con Edison electrical personnel upon request by the ECQMC.

3.5 Job Briefing

The Electrically Competent Qualified Municipal Contractor in charge shall conduct a job briefing with the municipal contractor's employees involved before they start the job. The briefing shall cover: the hazards associated with the job; work procedures involved; special precautions; and personal protective equipment requirements. The Electrically Competent Qualified Municipal Contractor shall instruct that all cables are to be treated as energized. Additional briefings shall be held if significant changes, which might affect the safety of the municipal contractor's employees, occur during performance of the work. The Electrically Competent Qualified Municipal Contractor shall document completion of the job briefing. A copy of the documented job briefing shall be available upon request by Con Edison.

3.6 Attendants

While work is performed in a Con Edison sub-surface structure, a Municipal Contractor Attendant shall be available in the immediate vicinity to render emergency assistance. Sub-surface structure Attendants shall comply with applicable OSHA requirements.

3.7 Hazardous Atmosphere

Municipal Contractor personnel shall perform a documented hazardous atmosphere test before entry into any Con Edison sub-surface structure and perform continuous air monitoring in compliance with applicable OSHA requirements. Any atmospheric reading deemed to be un-safe would prohibit access to the structure. The Municipal Contractor shall immediately notify the authorized Con Edison Inspector.

3.8 Personal Protective Equipment

Municipal Contractor personnel requiring entry into Con Edison sub-surface structures shall refer to and comply with applicable OSHA requirements regarding the use of Personal Protective Equipment when performing this work. Con Edison also requires that Municipal Contractor personnel assigned to work inside Con Edison sub-surface structures shall always wear Flame Resistant (FR) Clothing with a rating of 8 cal/cm^2 or HR2, wear a retrieval harness, and that a retrieval device be on location. In addition, an atmospheric tester must be in use continuously anytime a structure is occupied. See section 3.9 for Matrix on Con Edison's Personal Protective Equipment Guideline.

3.9 Con Edison Personal Protective Equipment Guideline

	Task	Class 0 Gloves	FR Clothing	FR Hood	Blast Goggles	Face Shield	Safety Glasses
1	Pavement breaking	N	N				Y
2	Breaking out concrete encased duct	Y	Y			Y	Y
3	Moving energized primary cables that are located outside a structure while in proximity to joints	Y	Y	Y	Y		

4	Moving primary cables outside a structure (no joints involved)	Y	Y				Y
5	Moving energized secondary cables	Y	Y				Y
6	Hand excavate to locate precast ducts	N	N				Y
7	Hand excavate to locate direct buried cables	Y	Y				Y
8	Removing cable from conduit	Y	Y				Y
9	Breaking structure for POE from outside/inside	Y	Y			Y	Y
10	Breaking sub-structure walls	Y	Y				Y
11	Pulling rope within structure with energized cable	Y	Y				Y
12	Pulling rope in enclosed spaces	Y	Y				Y
13	Building a bench or platform within a subsurface structure to support or protect cables.	Y	Y				Y
14	Breaking out unknown precast electric duct	Y	Y				Y
15	Using digging bar over electric facility	Y	N				Y
16	Using digging bar over direct buried cables	Y	Y				Y
17	Using Pneumatic clay digger in vicinity of electric facility	Y	Y				Y
18	Installing forms for field-constructed sub- surface structures from inside the designed footprint when connected cables are present	Y	Y				Y
19	Installing forms for field-constructed subsurface structures from outside the designed footprint when connected cables are present	N	N				Y
20	Installing forms for field-constructed subsurface structure prior to first energization of new cables	N	N				Y
21	Saw cutting operation	Y	N				Y
22	Hand excavate to locate cable fault	Y	Y				Y
23	Hand excavating to find service dead leg	Y	Y				Y
24	Removing underground silo	Y	Y				Y
25	Regrade	Y	N				Y
26	Build/remove shunt box w/ energized cable inside	Y	Y				Y

3.10 Access

Municipal Contractor personnel shall not climb into or out of Con Edison sub-surface structures by stepping on cables or hangers.

4.0 Removal of Conduit from Cables, Moving Energized Underground Cables & Working in Open Trenches / Excavations that Contain a D-Fault.

4.1 Purpose

Establish a guideline that shall be employed by Electrically Competent Qualified Municipal Contractor personnel, meeting OSHA & Con Edison training requirements, when removing conduit from cables and moving Con Edison energized underground cables located outside or inside structures and working in open trenches / excavations that contain a cable with a D-Fault condition.

4.2 Application

Municipal Contractor personnel

4.3 Guideline

This guideline details the requirements for practices that shall be employed when moving Con Edison energized underground cables located inside or outside of Con Edison structures. Only Electrically Competent Qualified Municipal Contractor personnel who have been trained and meet necessary OSHA & Con Edison requirements for moving energized underground cables in accordance with the following directions shall perform movement of energized cables on the Con Edison system.

4.4 Job Briefing

The Electrically Competent Qualified Municipal Contractor in charge shall conduct a documented job briefing with the Municipal Contractor's employees involved before the start of the job. The briefing shall cover: the hazards associated with the job; work procedures involved; special precautions; and personal protective equipment requirements. The Electrically Competent Qualified Municipal Contractor shall instruct that all cables are to be treated as energized. Additional briefings shall be held if significant changes, which might affect the safety of the Municipal Contractor's employees, occur during the course of the work. The Electrically Competent Qualified Municipal Contractor shall document completion of the job briefing. A copy of the documented job briefing shall be available upon request by Con Edison.

4.5 Removal of Conduit from Cables

All subsurface electric cable systems and related components shall be considered energized. Caution shall always be employed whenever conduits are opened to expose the interior cable. Refer to Appendix A for additional requirements and resources.

4.5.1. Pre-cast Concrete Conduit

a- The conduit shall be fractured by striking the top end corner of the conduit with a 3 lb. hammer equipped with a non-conductive handle. When fracturing the conduit, all impact/chipping action shall be performed in such a manner to be directed across the top of the conduit away from any cable that may be inside of the conduit.

b- A small piece of the concrete conduit shall be chipped away so that a visual examination of the interior of the conduit can be made to verify the presence of cable. All impact/chipping actions shall be performed in such a manner to be directed across the top of the duct, away from the cable.

c- If cable is present, concrete-chipping operations shall continue until enough material has been removed to permit insertion of a non-conductive protective shield barrier between the conduit and cable or as directed by the authorized Con Edison Inspector based on existing field conditions. Material such as exterior grade plywood or lumber (min. thickness ¾") or suitably reinforced plastic sheet material (min. thickness 0.060" – e.g., Norplex Micarta NEMA Grade G-3 or G-10) shall be used for this purpose. This shield material shall provide protection for the cable during the remaining conduit removal operations. The remainder of the conduit shall be fractured using the 3 lb. hammer equipped with a non-conductive handle. Care shall be taken to avoid any impact upon the cable, either by direct or indirect hammer blows.

d- During and after conduit removal operations, cable/conduit shall be properly supported as indicated in Section 4.7, below.

4.5.2 Concrete Encased Conduit

a- The concrete encased conduit (including but not limited to pre-cast, fiber, tile, clay), shall be fractured by striking the top end corner of the conduit with a 3 lb. hammer equipped with a non-conductive handle. When fracturing the conduit, all impact/chipping action shall be performed in such a manner to be directed across the top of the conduit away from any cable that may be inside of the conduit.

b- For concrete encased conduit, it may be necessary to employ a handheld cold chisel (in conjunction with the 3 lb. hammer) to remove concrete encasement. If a chisel is utilized, all impact/chipping actions shall be performed in such a manner to be directed across the top of the duct, away from the cable.

c- If the concrete encasement is so dense as to render the use of a hammer and handheld chisel non-effective, an 8-pound sledgehammer may be employed. If neither of these devices proves effective, the use of a pneumatic chipping hammer will be permitted. The weight/size of the pneumatic chipping hammer shall not exceed 20 lbs. When utilizing a pneumatic chipping hammer, the device shall be securely positioned and be under close operator control at all times. The tool bit used for these operations shall be chisel shaped with a minimum width of two (2") inches. All impact/chipping actions shall be performed in such a manner to be directed across the top of the duct, away from the cable.

e- A small piece of the concrete conduit shall be chipped away to permit verification of the presence of cable inside the conduit.

f- If cable is present, concrete-chipping operations shall continue until enough material has been removed to permit insertion of a non-conductive protective shield barrier between the conduit and cable or as directed by the authorized Con Edison Inspector based on existing field conditions. Material such as exterior grade plywood or lumber (min. thickness ¾") or suitably reinforced plastic sheet material (min. thickness 0.060" – e.g., Norplex Micarta NEMA Grade G-3 or G-10) shall be used for this purpose. This shield material shall provide protection for the cable during the remaining conduit removal operation.

g- After installation of the shield material has been completed, continue removal of remaining conduit and encasement, using handheld and power tools.

h- During and after conduit removal operations, cable/conduit shall be properly supported as indicated in Section 4.7, below.

4.5.3 Wood Conduit

a- Wooden conduit shall be split using a handheld cold chisel and a 3 lb. hammer equipped with a non-conductive handle. All impact/chipping action shall be performed in such a manner to be directed across the top of the conduit away from the cable.

b- The chisel shall use to create a small window in the conduit that will permit a visual inspection of the conduit interior for the presence of cable.

c- If cable is present, wood conduit material shall continue to be removed until enough material has been removed to permit insertion of a non-conductive protective shield barrier between the conduit and cable or as directed by the authorized Con Edison Inspector based on existing field conditions. Material such as exterior grade plywood or lumber (min. thickness ¾") or suitably reinforced plastic sheet material (min. thickness 0.060" – e.g., Norplex Micarta NEMA Grade G-3 or G-10) shall be used for this purpose. This shield material shall provide protection for the cable during the remaining conduit removal operation.

d- After installation of the shield material has been completed, continue removal of remaining conduit

e- During and after conduit removal operations, cable/conduit shall be properly supported as indicated in Section 4.7, below.

4.5.4 HDPE Conduit

a- HDPE conduit shall be split using hand tools or a handheld pneumatic rotary cutting tool. All splitting/cutting actions shall be performed in such a manner to be directed across the top of the duct, away from the cable.

b- Pneumatic Rotary Cutting Tool – A pneumatic rotary cutting tool, with a depth guide, shall be used to score an access area in the surface of the conduit. Prior to application of the cutting tool to the surface of the conduit, the depth collar on the pneumatic rotary cutting tool shall be set so that the cutting bit will penetrate approximately ¾ of the wall thickness of the conduit. After the conduit has been cut to the maximum depth allowable (such that the bit does not fully penetrate the thickness of the conduit), a 3 lb. hammer shall be used to knock out the access area (window) outlined by the cutting tool. This will permit visual inspection of the conduit interior for the presence of cable.

c- If inspection of the interior of the conduit reveals that cable is present, a non-conductive protective shield barrier shall be inserted into the conduit between the conduit and cable. This shield material shall provide protection for the cable during the remaining conduit removal operations. Material such as exterior grade plywood or lumber (min. thickness ¾") or suitably reinforced plastic sheet material (min. thickness 0.060" – e.g., Norplex Micarta NEMA Grade G-3 or G-10) shall be used for this purpose. This shield material shall provide protection for the cable during the remaining conduit removal operations.

d- If inspection of the conduit interior does not reveal the presence of cable, the remaining conduit may be removed using the tool choices mentioned in 4.5.4.a.

4.5.5 Metal Conduit

a. When removing metal conduit, the Municipal Contractor shall first excavate and expose a collar connecting two sections of conduit. Once the collar is accessible, split and/or cut the collar off with a cutting tool that has a depth guide to inspect the conduit interior for the presence of cable. If a metal conduit collar is NOT easily accessible or found within 20 to 40 feet of open excavation, proceed to section 4.5.5.b. Note: If the work to be performed is in response to a suspected natural gas leak or in the presence of natural gas, only the use of non-powered hand tools is allowed. If work is required in the presence of a natural gas leak, further guidance will be provided by the PI Representative in consultation with Con Edison's Gas Engineering Department

b. If a collar connecting two sections of conduit cannot be found, metal conduit will be split using hand tools and/or a handheld rotary cutting tool. All splitting actions will be directed across the top of the conduit, away from the cable. Note: If the work to be performed is in response to a suspected natural gas leak or in the presence of natural gas, only the use of non-powered hand tools is allowed. Further guidance will be provided by Gas Engineering.

c. Score the outline of an access area onto the surface of the conduit. Do not fully penetrate the conduit with the tool while making this outline.

d. Use this outline as a guide for further splitting and cutting operations that will eventually create a viewing window into the conduit.

e. If inspection of the conduit interior reveals the presence of cable, insert a non-conductive protective barrier between the cable and conduit wall. The barrier will provide physical protection for the cable during remaining conduit removal operations. Materials including, but not limited to, exterior grade plywood, lumber, and Norplex Micarta are acceptable. After the installation of the non-conductive protective barrier, the removal of the remaining conduit may proceed using the tool choices mentioned in section 4.5.5.b.

f. If inspection of the conduit interior does not reveal the presence of cable, the remaining conduit may be removed using the tool choices mentioned in section 4.5.5.b.

4.6 Visual Inspection

a- A visual inspection of cables located outside Con Edison structures that will be moved, shall be performed by Electrically Competent Qualified Municipal Contractor personnel or the authorized Con Edison Inspector.

b- After the conduits have been broken out (removed from the cables), the exposed cable(s) shall be inspected by the Electrically Competent Qualified Municipal Contractor personnel.

c- The cables shall be visually inspected by the Electrically Competent Qualified Municipal Contractor personnel and determined to be free from any of the defects that would prevent relocation. Cable(s) shall be free of cracks, tears, and evidence of oil stains, swelling, or melting of the insulation. Cables shall not have any exposed conductor.

4.7 Cable Moving Operations

a- Municipal Contractor personal shall not move any cables or splices within an electrical manhole. Moving cables within an electrical manhole and splices regardless of location may only be performed by qualified Con Edison electrical personnel unless the Municipal Contractor personnel has completed applicable Con Edison training courses and has provided written proof of said training to the PI Representative. Whenever cables located in open excavations are moved, the Municipal Contractor shall protect the cables by ensuring the cable jacketing is not subjected to sharp edges or over bending as it exits the existing structure or the footprint of the existing structure if said structure has been demolished or is in the process of being demolished and/or rebuilt.

b- Prior to moving any cables outside of a subsurface structure, the cables located within the associated connecting subsurface structures shall be inspected in accordance with Section 3.4 of this guideline.

c- Municipal Contractor personnel meeting the training requirements and experienced in moving Con Edison cables only shall move cables.

d- Cables shall not be moved until plastic "fair-leaders" are positioned at the duct edges to prevent chaffing damage.

e- Synthetic web slings having a minimum width of two (2) inches shall support cables that have been removed from conduit. Slings shall be used in a basket hitch configuration.

f- Conduit which house cables shall be supported using slings, cable, or rope. Conduits shall be supported in such manner as to maintain alignment with one another.

g- Maximum distance between support points shall be four (4) feet.

h- To prevent inadvertent over bending of the cables, the maximum vertical or horizontal offset between supports shall be one foot (1') for cable that is supported outside of conduit. For cable that is being moved while still installed in conduit, the conduit shall not be offset more than one foot per four-foot section of conduit.

i- Each set of cables (cables from one duct/conduit) shall be moved individually. Cables from multiple ducts/conduits shall not be moved as a bundle.

j- Relocation of cables shall always be performed in a careful manner with the movement of cable under complete control. There shall be no sudden movements of the cable or the conduit that contains cable.

k- An observer shall be positioned to determine proper slack in structures and to ensure that joints remain properly supported on rack arms and specified offsets are maintained. This observation shall be performed from outside of the structure while the cable is being moved.

l- Allowable horizontal and vertical offsets shall be determined based on applicable CET or JB item sketches and/or as directed by the authorized Con Edison Inspector.

m- Cables shall not be permitted to fall freely from temporary supports.

n- All cables supported by slings shall be visually inspected by the ECQMC personnel at the beginning and end of each work shift to ensure that no cracks, leaks, or other defects have developed.

o- Cables shall be repositioned with care when being moved into their final position for the installation of split conduit.

4.8 Working in Open Trenches/Excavations that Contain an Energized a D-Fault

4.8.1 A D-Fault is defined as an abnormal condition found on an energized primary cable or splice that is presumed to be an indication of an impending fault. If the ECQMC personnel notices an abnormal condition on cable in a trench or excavation work must stop and the PI Representative shall be notified immediately to provide further guidance. If the PI Representative in consultation with qualified Con Edison electrical personnel deem the cable condition a D-Fault, the ECQMC personnel shall follow the directions noted below to continue work.

4.8.2 At distances greater than 20 feet from the energized D-Fault, no additional personal Protective Equipment (PPE) other than that referenced in Section 3.9 is required.

4.8.3 At distances greater than 10 feet but less than 20 feet from the D-Fault, a hard-hat mounted face shield is required in addition to PPE referenced in Section 3.9 above.

4.8.4 At distances greater than eight feet but less than 10 feet from the energized D-Fault, a hard-hat mounted full-face shield and a FR Hood in required in addition to PPE referenced in Section 3.9 above.

4.8.5 At distances less than eight feet from the D-Fault, no work shall be performed.

4.8.6 Movement of D-Faulted cable is strictly prohibited.

4.9 Personal Protective Equipment

Municipal Contractor personnel moving Con Edison energized cables shall refer to and comply with applicable OSHA requirements regarding the use of Personal Protective Equipment when performing this work. See Section 3.9 for Matrix on Con Edison's Personal Protective Equipment Guideline.

5.0 Sub-Surface Structure Break Out/Rebuild or Breaking Out a Point of Entry (POE's) in an Electrical Enclosed Space

The ECQMC must be present onsite with the municipal contractor crew to conduct the documented job briefing on each day any breakout operations are to be performed. This includes structure entry for POE, structure break out and/or rebuilds. The ECQMC shall address hazards, live cables, necessary PPE with other municipal contractor employees & request assistance from the PI Representative to arrange any required inspections with qualified Con Edison electrical personnel for any cable movement or adjustments. The ECQMC should refer to section 3.0 through 3.10 & section 4.7 of this procedure for all activities required prior to sub-surface structure entry and cable moving operations respectively. A copy of the documented job briefing shall be available upon request by Con Edison.

5.1 Activities Prior to Sub-Surface Structure Break Out, Rebuild or Creating POE's

5.1.1 Prior to the start of breakout operations, the location of all conduit and cable passing through the section of the wall and beneath the structure floor that is going to be broken out shall be visually identified inside and outside the structure.

5.1.2 When there is a potential for contact between the existing cables that have been visually identified and the tool being used to break the structure, the ECQMC shall discuss with the Public Improvement Representative if there is a possibility that Electric Operations can de-energize the cables that are in the potential zone of contact prior to breaking out the structure.

5.1.3 When the cables cannot be de-energized by Electric Operations then they must be protected by using acceptable non-conductive materials as noted in Section 5.2.

5.1.4 After cables have been protected, they shall be moved by qualified Con Edison electrical personnel or an ECQMC who has met the requirement of Section 4.7 above.

5.1.5 All primary cables shall be moved by or under the direct supervision of qualified Con Edison electrical personnel.

5.2 Structure or POE Break Out Operations

5.2.1 Using caution, expose the exterior sections for the structure that is required to be broken out typically done in 2' – deep vertical sections) by carefully excavating on the outside of the structure. If conduit has been identified to be passing under the structure, take necessary precautions noted below.

5.2.2 Visually identify all conduits and cables passing through the structure and beneath the structure floor as well.

5.2.3 When there is a potential for contact between the existing cables that have been visually identified and the tool being used to break out the structure walls, roof floor and/or POE, protect the cables using fire rated (FR) wood, phenolic board, cable shields or other acceptable non-conductive materials., Cables on the walls in the POE area shall also be protected from falling debris using FR wood even if there is no potential for contact with said cables and the tool being utilized to break the structure.

5.2.4 Once all conduits and cables have been identified and protected on both the inside and the outside of the structure walls and beneath

the structure floor; and the structural integrity of the proposed break out area has been confirmed using hand tools, use the appropriate tool (up to and including a 90-pound jackhammer) to break out the section of structure wall, roof or floor that was previously prepared for break out

5.2.5 If a jackhammer is being used for the structure wall, roof, floor or POE breakout operation, where feasible, support the tool from underneath to prevent slippage.

5.2.6 Where possible, the use of a 90 lb. jackhammer shall be avoided within 8" of a live conduit. If the ECQMC's competent person determines that the breakout can only be made using a jackhammer within 8" of live conduit, a physical barrier must be placed between the jackhammer and all facilities that could possibly come in contact with the jackhammer. The Municipal Contractor may then begin utilizing the 90 lb. jackhammer using a 3" bit or wider.

5.2.7 After the top sections of roof or wall has been broken out, continue to excavate down to expose the next section of that wall to be broken out and repeat the process starting with section 5.2.1

5.2.8 For all additional walls in the structure that need to be broken out, resume operation starting with section 5.1 of this procedure.

APPENDIX – A – Breaking Out Conduit Checklist, On-the-Job Training (OJT) & Video

Breaking-Out Conduit Pre-Job Checklist

Contractor	
Location	
Date and Time	

A new Breaking-Out Conduit Pre-Job Checklist must be completed by the Foreperson each time individuals enter or change roles, and each time a Job Briefing is administered.

Roles Review	*Name(s) of Individuals who will remain continuously on-site throughout this task's progress*	*Training in Compliance and Qualified for task?*	*Lead Person's Initials*	
			Con Edison	*Contractor*
Foreperson		Yes / No		
Individual Completing On-site Peer Check		Yes / No		
Laborer(s) performing break-out		Yes / No		
Con Edison On-Site Representative		Yes / No		

Layout and Activity Review	
Layout #	
Duct(s) in Trench/Manhole	
Duct Type (CD, CED, HDPE, Metal)	
Are there Primary / Secondary electric lines? - What is energized? At what voltages?	
Are duct banks clear of all debris?	
Is there line of sight and all edges and corners?	
Will cable be moved? If so, to where and how will it be supported?	
How will bodies and tools be positioned?	

Personal Protective Equipment	
☐ Safety Boots	☐ 0 kV Gloves (Test Date on gloves: _____)
☐ Hard Hat	☐ Leather Gauntlets
☐ Safety Glasses	☐ Is a Harness Required? (EO-10130)
☐ Face Shield	☐ FR Hood and Goggles (if Primary in structure)
☐ Flame Retardant Coveralls	

Tools - *All tools to be laid out in work area prior to start of activity*	
☐ Claw Hammer	☐ Chipping Gun, must be less than 20 lbs. - Recommended 2"-4" piston stroke and < 1,500 BPM
☐ Chisel with at least 2" wide flat bit	
☐ 3 lbs. Hammer	☐ Micarta or similarly approved half-moon material
☐ 8 lbs. Sledgehammer	☐ Pneumatic Rotary Cutting Tool and Blade (HDPE pipe)

DOJT –OJT0070
PROCEDURE FOR REMOVING CONDUIT FROM UNDERGROUND DISTRIBUTION CABLE

1

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PROCEDURE FOR REMOVING CONDUIT FROM UNDERGROUND DISTRIBUTION CABLE

- Underground electric cables are protected by conduit pipes which are buried under the roadway in the ground. The conduit protects the high voltage cables placed inside them from damage from shovels, digging bars and other work activities when excavating in the area to install new equipment. Even when using these manual devices to unearth existing ducts, extreme care must be taken not to pierce, cut, or break open the duct unless the safeguards listed in the following pages are used for your safety and the protection of the cables on the inside.
- A mechanical machine such as a backhoe should never be used to excavate around electric or gas facilities. The likelihood of the facility being damaged increases significantly when such practices are used.

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GETTING PREPARED TO LOCATE DUCTS

- Before removing asphalt and concrete roadbase make sure a code 753 has been called in with the 811 center and spray marks are in place on the ground showing the path of the electric and gas lines.
- Check the spray painted mark outs against the Con Edison plates and prints. (Layout diagram, Conduit plate, Composite Feeder Plate, Low Tension mains & service and Gas Mains & Service Plate). Ask your Con Edison Representative to review these prints and the markouts with you.
- Remove concrete and asphalt within your new work zone with machine. Load out debris.
- Use a backhoe only to dig up areas where you have verified that there are no electric or gas facilities.

3

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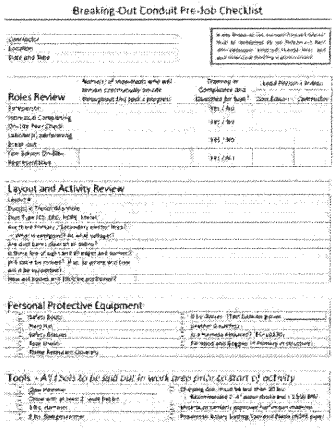
DIGGING IN AREAS WHERE YOU HAVE ELECTRIC, GAS FACILITIES, OR HAVE DISCREPANCIES BETWEEN THE MARKOUTS AND PRINTS

- Dig only using shovels and blunt edge digging bars to find electric and gas facilities. Never strike a blunt edged digging bar straight down into the soil. Precast, HDPE, Cast Iron & plastic gas mains/services can lie a few inches under the surface and the bar can still penetrate through them if you are not careful.
- When using a digging bar on hard, compacted soil, use a sideways striking motion toward the sides of the excavation, never straight down.
- Continuously remove soil from area, keep area clean of debris, locate ducts edge to edge to keep line of sight.
- Use air lance to blow out tight areas between facilities to visualize work zone.

4

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PRE-JOB CHECKLIST


Breaking-Out Conduit Pre-Job Checklist

Roles Review

Layout and Activity Review

Personal Protective Equipment

Tools - All tools to be laid out in work area prior to start of activity

Adobe Acrobat Document

- A new Breaking-Out Conduit Pre-Job Checklist must be completed by the Foreperson each time individuals enter or change roles, and each time a Job Briefing is administered.
- All tools to be laid out in work area prior to start of activity

5

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PREPARE AREA FOR DUCT BREAK OUT

- Additional guidance for routine entry into electrical enclosed space is provided in GEHSI-S17.01 – Electrical Enclosed Space Entry.
- Once you have dug down and located duct banks make sure you clear all debris (soil, rocks) from the trench to visually have a line of site of all edges and corners.
- Determine if you need to remove the duct/s from the electrical conduit to move them to make room for the installation of additional new facilities. (WINGBACK).
- <u>If necessary to conduct a removal:</u> Address the PPE Requirements, work procedures and tools to be used on the following pages with the workers. Stress the importance of following procedures to avoid a high hazard injury such as shock or burns. Document in your safety briefing.

6

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PPE REQUIREMENTS DURING DUCT BREAKOUT IN A TRENCH OR ENCLOSED SPACE

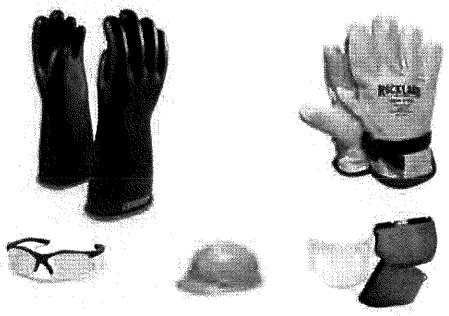
NOTE: ONLY COTTON WORK CLOTHS UNDERNEATH FR SUITS

You must wear an FR coverall during all duct break out procedures. Remove jewelry (chains, watches, rings, earrings)



FR Coverall

You must wear Class 0 kV gloves, leather gauntlet leather protectors, helmet, safety glasses and face shield



Class 0 kV Gloves, Gauntlets, Safety Glasses, Face Shield, Helmet.

7

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PPE REQUIREMENTS DURING DUCT BREAKOUT IN AN ELECTRICAL ENCLOSED SPACE

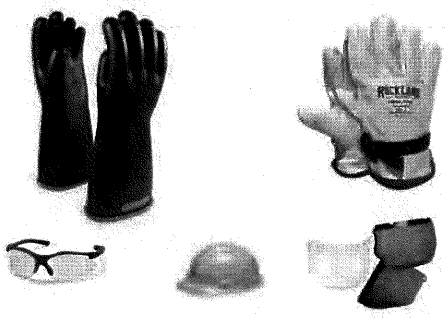
NOTE: ONLY COTTON WORK CLOTHS UNDERNEATH FR SUITS

You must wear an FR coverall and rescue harness during all duct break out procedures inside the EES. Remove jewelry (chains, watches, rings, earrings)



FR Coverall & Rescue Harness

You must wear Class 0 kV gloves, leather gauntlet leather protectors, helmet, safety glasses and face shield



Class 0 kV Gloves, Gauntlets, Safety Glasses, Face Shield, Helmet.

8

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EQUIPMENT / TOOLS NEEDED FOR BREAKING OUT DUCTS

Precast Concrete Conduit

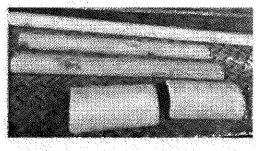


Only use small hammer to strike duct edges.

Insert Micarta to protect cable, keep striking away from center.

Slide Micarta along as you break off desired length of duct





Concrete Encased Duct



When breaking out concrete encased ducts the only tools to be used are: hammer, 3 lb. hammer With wood/plastic handle, chisel with 1.5" head, 8 lb. Sledgehammer by striking duct edges.

If concrete is not breaking with these tools, a 20 lb. chipping gun with a 1.5" head can be used.

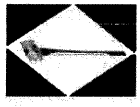
Make a window in the Duct, slide in a Micarta board and continue breaking out the remaining duct.

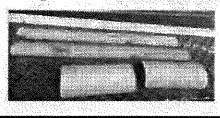
See sequence on next page.











9

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CONCRETE ENCASED DUCT BREAKOUT SEQUENCE



Use a 3 lb. hammer striking edges.

Advance to hammer & chisel with 1.5" head

If this is still not working, go to #2

1



Use 8 lb. sledgehammer striking Edges, not center.

If this is still not working, go to #3

2



Use a **lightweight Chipping gun** with a 2 to 4" piston stroke with a **1.5" head** breaking toward edges, never straight down.

NEVER USE A JACKHAMMER, A RIVET BUSTER CHIPPING GUN, OR A BIT IN THE CHIPPING GUN LESS THAN A 1.5" HEAD. If this is still not working, go to #4

3



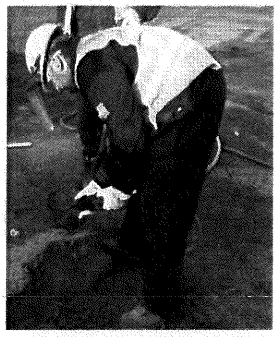
Visualize work zone when breaking away Material. Keep work zone clean. Remember That electrical ducts are usually stacked in Multiple rows and levels.

4

10

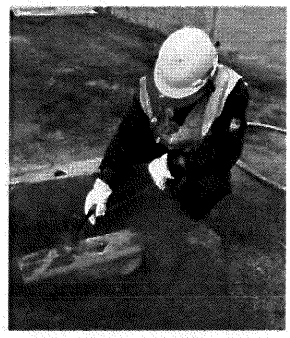
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BREAKING OUT INTERIORS OF CONCRETE/CLAY DUCTS



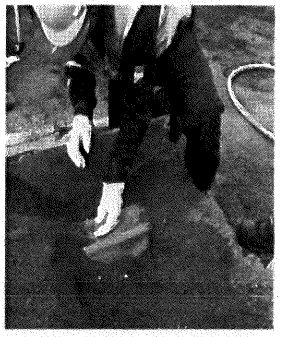
Find edges & visualize all ducts. Remember that There could be several across and underneath. Keep area clean, so you can tell configuration.

5



Break out window on each top duct found. Strike Away From the center.

6



Insert Micarta "half moon" protective insert in windows on ducts, Continue breaking top rows of ducts in a horizontal direction sliding Protective Micara down the run while breaking the top & sides.

7

11

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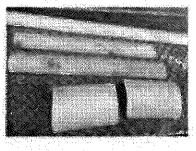
HDPE (PLASTIC) CONDUIT & STEEL DUCTS

Tools Needed









PPE Needed













3 pd. Hammer, 2" chisel, Rotary Cutting Tool & Blade, Micarta protective "half moon"

FR Coverall, Class 0 kV Gloves, leather gauntlets, safety glasses, face shield and helmet

12

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MAKING A WINDOW IN HDPE



Visualize top of duct bank, remove excess concrete chips & dirt.

Have line of site for sections to be removed

1



Use a rotary cutting tool to score a window In the HDPE pipe top.

Do procedure slowly and carefully.

Only score 90% of the way through the conduit.

2



Use hammer & chisel to cut away remaining plastic.

Strike away from center toward sides. Never strike straight down.

3



Insert Micarta "half moon" protection board.

Slide horizontally into conduit. Continue to cut open the top of conduit to desired length, Moving the Micarta as you go.

Do each duct individually,

Do not lose your line of sight.

4

13

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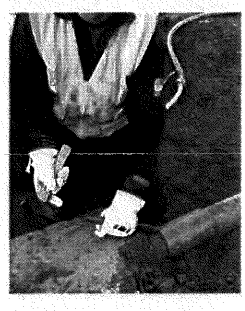
MAKING A WINDOW IN METAL CONDUIT



Visualize top of duct bank, remove excess concrete chips & dirt.

Have line of site for sections to be removed

1



If you find a coupling connecting two Sections of metal duct, slide collar over, or cut off.

There may be a large enough section underneath to insert Micarta protection board for conduit removal.

2



Use a rotary cutting tool to score a window In the steel conduit pipe top.

Do procedure slowly and carefully. Only score through 90% of steel conduit.

Use chisel and hammer to break away the rest striking away from center toward the corners

3



Insert Micarta "half moon" protection board. Slide horizontally into conduit. Continue to cut open top of conduit to desired length, moving Micarta as you go.

Do each duct individually,
Do not lose your line of sight.

4

14

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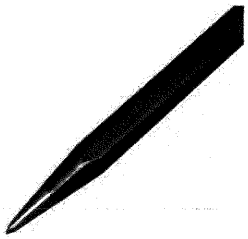
NEVER USE THESE TO FIND ELECTRICAL OR GAS FACILITIES



Never use a pickaxe



Never use a backhoe Bucket, or ramhoe attachment by electric of gas facilities



Never use a sharp digging Bar.
Use blunt edge bar in a sideways motion – never straight down



Never use a jackhammer to break out ducts, or use in the vicinity of a gas main or service.

15

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QR Code for Video

Breakout Conduit

players.brightcove.net

Breakout Conduit (Spanish subtitles)

players.brightcove.net

16

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Breaking Out Conduit Video -
https://players.brightcove.net/6012566853001/default_default/index.html?videoId=6283610511001

Appendix B – PI Check Point Tasks

Public Improvement (PI) - Check Point Tasks

A PI Check Point Task is defined as a construction activity involving Con Edison facilities that warrant a briefing or discussion with the PI Representative and the Municipal Contractor. This briefing should be documented by the Municipal Contractor in accordance with the applicable sections of the PI Guideline (CONST-029) and OSHA.

Work Category	Task
Demolish Manhole (MH)	Inspect MH
	Build False Roof
	Remove Forms
	Demolish Walls
	Demolish MH Floor
Build MH	Install Forms
	Remove Forms
Wingback	Inspect Site
	Break Out Conduits / Duct Systems
Excavation	Reivew Mark-Outs
	Excavate
Backfill	Backfill Facilities
Roadway Restoration	Mill, Pave and/or Reconstruct Roadway
Electric Pipe Install	Install Conduit or Duct Systems
Structure POE's	Inspect MH or Service Box (SB)
	Move Cable(s)
MH or Service Box (SB) Regrade	Inspect MH or SB

VERIZON MODIFIED SPECIFICATIONS

The specifications listed below supersede the specifications found in the "JOINT-BIDDING SPECIFICATIONS AND SKETCHES FOR MANHATTAN".

Specification	Superseded Specifications
JB 225	JB 225.1A, JB 225.1B, JB 225.2A, JB 225.2B, & JB 225.3A
JB 300	JB 300.1 & JB 300.2
JB 306	N/A
JB 351T	N/A
JB 401	JB 401
JB 402T	JB 402T.1, JB 402T.1A, JB 402T.2, JB 402T.2A, JB 402T.J1, JB 402T.J1A, JB 402T.J2, JB 402T.J2A, JB 402T.R1A, JB 402T.R2A, JB 402T.V1, JB 402T.V1A, JB 402T.V2, & JB 402T.V2A
JB 402T.3	JB 402T.3
JB 403T	JB 403T.1 & JB 403T.2
JB 404	N/A
JB 405	JB 405.1 & JB 405.2
JB 450	JB 450.1, JB 450.2, JB 450.3, JB 450.4, & JB 450.5
JB 603T	JB 603T.1, JB 603T.2, JB 603T.3, JB 603T.4, JB 603T.5, JB 603T.6, JB 603T.7, JB 603T.8, & JB 603T.9
JB 636 E	JB 636 EA, JB 636 EB, JB 636 EC, JB 636 ED, JB 636 EE, JB 636 EG, JB 636 EH, & JB 636 EI
JB 636 M	JB 636 MA, JB 636 MB, JB 636 MC, JB 636 MD, JB 636 ME, JB 636 MG, JB 636 MH, & JB 636 MI
JB 638 NT	JB 638 NT
JB 638 RT	JB 638 RT
JB 798	JB 798
JB 799	JB 799
JB 800	JB 800
JB 801	JB 801
JB 802	JB 802A & JB 802B
JB 803	JB 803.1, JB 803.2, & JB 803.3
JB 117T	JB 117TB, JB117TC, JB117T (Type .1- .5)
JB 118T	JB 118T (Type .1 -.5)

JB 225 – INSTALLATION AND REMOVAL OF CATCH BASINS WITH UTILITY INTERFERENCES

A. Description

Under this section, the Contractor shall provide all incremental labor, materials, equipment, insurance and incidentals required to support and/or protect the integrity of utility facilities required during the excavation, installation and removal of catch basins within maximum excavation limits shown on sketch JB 225. This shall include but not be limited to the following types of utility facilities:

1. Conduits
2. Cables
3. Concrete encased conduit duct banks
4. Steel pipes
5. Steam facilities
6. Oil-o-static facilities, and
7. Non-Cost sharing gas facilities

encroaching the catch basin excavation and sheeting lines as described further in this section and attached sketch JB 225.

B. Materials

Furnish slurry fill or backfill as required. All materials used to support and protect utility facilities shall be as indicated on standard Sketches JB 100A, JB 100B, JB 100C, JB 100C-1, JB 100D, JB 100E and JB 100F, contained elsewhere in these specifications, shall be supplied by the Contractor and approved by the facility operator(s).

C. Methods of Construction

The Contractor shall use sheeting methods that permit maintenance, support and protection of all utility facilities covered by this section. It is the intent of this item to support, maintain and protect any and all combinations and configurations of utility facilities located within limits indicated on sketch JB 225. For the construction of Type III catch basins, the spillway shall be constructed in a separate stage where the excavation limits may be waived after the basin structure has been installed and backfilled. Excavation for the spillway shall not exceed 3' beyond the exterior finished surface of the proposed spillway. Excavation method for spillway construction shall be done by hand. Utility facilities located within the catch basin footprint, are not covered by this section and shall be removed or adjusted by the Contractor under other JB items or by facility operator at their own expense. This section shall then cover the adjusted facilities.

Utility facilities located beyond the established maximum payment limits are not affected by work specified and shall not be disturbed during any type of catch basin installation and/or removal. Contractor shall be solely and totally responsible for support, maintain and protect, any disturbances and/or any damages to such facilities at his expense. The facility operator(s) shall identify the locations of all utilities within the contract area as required by New York State Industrial Code Rule 753. As provided by the Rule, the Contractor shall use hand excavation methods (pick

and shovel and/or hand held power tools) directly below the pavement base to expose the facilities and to ascertain the spatial relationships and/or dimensions of these utilities with respect to the proposed excavation. Upon exposing the affected utilities as determined solely by the facility operator(s), the Contractor shall be permitted to proceed with a combination of hand and machine excavation, as appropriate, within a zone of protection whose limit shall be defined as a perimeter located one foot from the outside face of each utility interference.

D. Method of Measurement

The quantity to be measured for payment shall be each basin where utility facilities are located within the limits indicated on sketch JB 225. Utility facilities located within the catch basin footprint shall be removed or adjusted by the contractor under other JB items. This section shall then cover the adjusted facilities. Payment will be made only one time at locations where a new catch basin is to be installed at the same location as a preexisting catch basin as specified on contract drawings. For the purpose of this item, "same location" shall mean within 10ft of the preexisting basin location.

JB 225.1A – Installation and removal of catch basins with utility interferences (EA)

JB 225.1B – Installation and removal of catch basin with utility interference at an additional depth of up to 3 feet (EA)

JB 225.2A – Installation of catch basins with utility interferences (EA)

JB 225.2B – Installation of catch basins with utility interferences at an additional depth of up to 3 feet (EA)

JB 225.3A – Removal of catch basins with utility interferences. This item shall be applied only in situations where the catch basin is being removed and not replaced. This item requires complete removal of the catch basin including the floor. (EA)

E. Price to Cover

For JB items 225.1A & 225.2A – The price shall cover the cost of all labor, material, equipment, insurance and incidentals necessary to completely support and protect and maintain the integrity of the utilities without disruption of service to the customers and in accordance with other types of utility items. The price shall also include the cost of: supports, slings and beams installed for utility support; changes of sheeting method and configuration where necessary to accommodate the utility; a combination of hand and machine excavation within the payment limits specified; the disposal of excess backfill material; the placing of backfill material adjacent to catch basins within the maximum payment limits shown on sketch JB 225; backfilling and compacting around over, under and in between utility facilities; installation and removal of sheeting around facilities; support and protection of utility facilities encountered during construction of the spillway. The price shall also cover any additional excavations including hand and hand and machine excavations under and in between single and multiple facilities; and/or in between utility facilities and other existing structures. The unit price shall be deemed to cover all incremental cost for all labor, material, equipment, and incidentals necessary to excavate, install and/or remove specified catch basins while completely supporting, protecting, maintaining and/or adjusting the catch basin to accommodate the integrity of the encroaching utility facilities without disruption of service to the customers in accordance with the contract documents. All cost to support maintain, protect, and accommodate the integrity of utility facilities shall be deemed included in the price for this item. The price shall also cover all additional restricted excavating, sheeting, backfilling, and

compaction around, over, under, and between utility facilities and all other existing structures and/or newly installed and/or removed catch basin.

For JB items 225.1B and .2B – The price to cover shall include all work as described in price to cover for JB 225.1A and .2A plus installation of the catch basin at an additional depth of up to three feet. Payment for all work herein specified shall be made on a one-time basis only; no payment for work herein specified shall be made for the same area more than one time. Payment will be made only one time if the Contractor elects to install new basins next to existing basins to accommodate their operations. No payment will be made for the removal of the existing basins if performed at a later sequence.

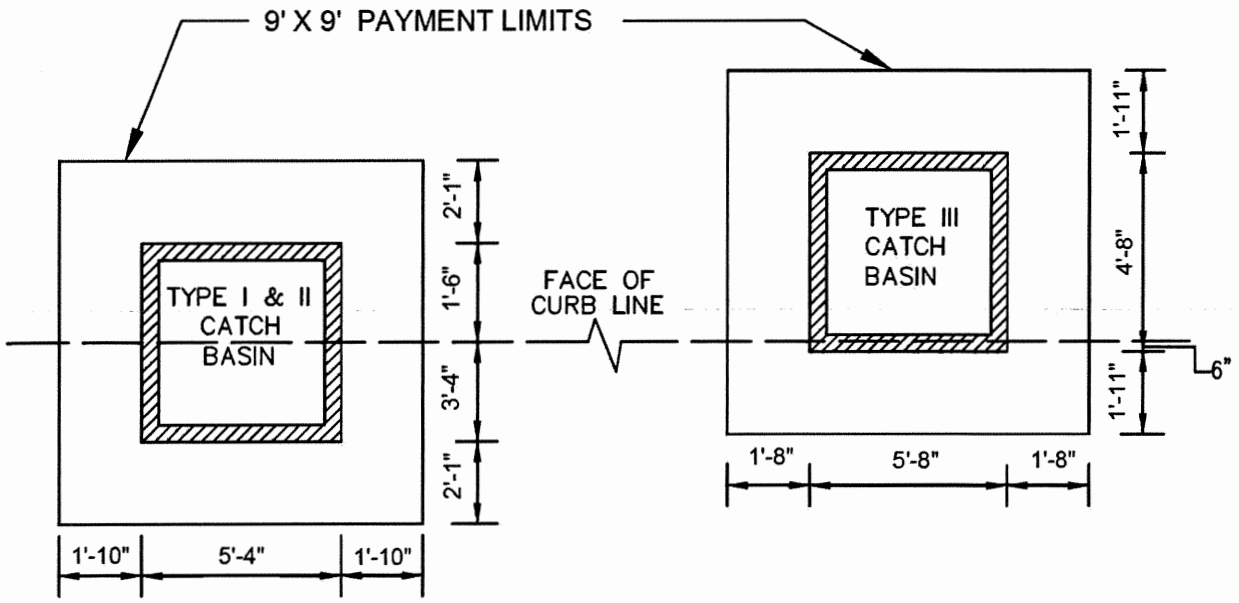
For JB items 225.1A, .1B, .2A, and .2B - if tight sheeting is not utilized for the installation of the catch basin this JB pay item shall be reduced by 60%.

For JB item 225.3A – The price to cover shall include all work as described in price to cover for JB 225.1A and .2A plus the modification of means and methods for the removal of catch basins using hand tools including but not limited to chipping guns and jack hammers when work is performed in the presence of utility facilities within the excavation limits as outlined in sketch JB 225.

Payment for all work herein specified shall be made on a one-time basis only; no payment for work herein specified shall be made for the same area more than one time. Payment will be made only one time if the Contractor elects to install new basins next to existing basins to accommodate their operations. No payment will be made for the removal of the existing basins if performed at a later sequence.

F. References

1. Sketches JB 225, JB 100A, JB 100B, JB 100C, JB 100C-1, JB 100D, JB 100E and JB 100F
2. NYS Industrial Code Rule 753



CATCH BASIN ORIENTATION TO CURB LINE WITH PAYMENT LIMITS CONCENTRIC TO BASINS
N.T.S.

JB 225 PAY LIMITS

CATCH BASIN TYPE	DIMENSION TO UTILITY FACILITY PARALLEL FROM FACE OF CURB INTO STREET	DIMENSION TO UTILITY FACILITY PARALLEL FROM FACE OF CURB INTO SIDEWALK	DIMENSION TO UTILITY FACILITY PERPENDICULAR TO CURB FROM FACE OF CATCH BASIN
TYPE I & II TYPE III	3'–6" TO 5'–5" 0'–8" TO 2'–5"	1'–8" TO 3'–7" 4'–10" TO 6'–7"	0'–2" TO 1'–10" 0'–2" TO 1'–8"

NOTES:

FOR EXCAVATIONS GREATER THAN 9'X9', THE CONTRACTOR SHALL SUPPORT ALL UTILITIES AS SPECIFIED UNDER THE VARIOUS ITEMS WITH NO ADDITIONAL COMPENSATION FROM THE IMPACTED UTILITIES. PAYMENT UNDER THIS ITEM SHALL INCLUDE MODIFICATION OF SHEETING METHODS TO SUPPORT UTILITY FACILITIES PARTIALLY WITHIN THE PAYMENT LIMITS SPECIFIED.

ACCOMODATION OF UTILITY FACILITIES DURING CATCH BASIN INSTALLATIONS

LAST REVISION	SKETCH NO.
2/27/2016	JB 225

JB 300 - SPECIAL CARE EXCAVATION AND BACKFILLING

A. Description

Under this section, the Contractor shall provide all incremental labor, materials, equipment, insurance and incidentals required for trench excavation when protecting and maintaining and accommodating the integrity of utility facilities, including but not limited to:

1. Conduits
2. Cables
3. Structures
4. Concrete encased conduit ductbanks
5. Steel pipes
6. Steam facilities
7. Non-cost sharing gas facilities

of various sizes and configurations, encroaching (partially exposed) or paralleling (not exposed) within 6 inches of the approved city trench lines for all phases of contract excavation as shown on contract drawings and/or as encountered during construction, except excavations to the ultimate depth for curbs, sidewalks and roadway/base/sub-base removal which are covered under other JB items. This item shall also apply to facilities that cross excavations for water service installation and extensions or excavations for water tap searches. The items specified under this section shall not be measured for payment in conjunction with any other types of utility items. All work shall be performed in accordance with contract plans, specifications, sketches JB 300A and JB 300B and at the direction of the facility operator(s).

B. Materials – N/A

C. Method of Construction

The Contractor shall maintain and protect and accommodate the integrity of all utility facilities encroaching/paralleling within excavations as schematically shown on sketches JB 300A and JB 300B. The facility operator(s) shall identify the locations of all utilities within the contract area as required by New York State Industrial Code Rule 753. As provided by the Rule, the Contractor shall use hand excavation methods (i.e. pick and shovel or hand held power tools) directly below the pavement base to expose the facilities and ascertain the spatial relationships and/or dimensions of these utilities with respect to the proposed excavation. Upon exposing the affected utilities sufficiently as determined solely by the facility operator(s), the Contractor shall be permitted to proceed with a combination of hand and machine excavation, as appropriate, within a zone of protection whose limit shall be defined as a perimeter located one foot from the outside face of each utility encroaching.

D. Method of Measurement

The unit price for this work item shall be based on the volume (C.Y.) of special care excavation calculated as follows:

- For paralleling facilities (not exposed) within six inches of city trench line: The area for payment shall be measured horizontally from the face of the excavation plus one foot towards the center

of trench and vertically from bottom of the roadway to the bottom of the trench, multiplied by the length of the paralleling utility facility as indicated in sketches JB 300A and JB 300B.

- For encroaching facilities: The area for payment shall be measured horizontally as the width of the encroaching facility plus one foot towards the center of the trench and vertically from the bottom of the roadway to the bottom of the trench, multiplied by the length of the encroaching utility facility as indicated in sketches JB 300A and JB 300B.
- For facilities crossing water service excavations: Depth as defined above multiplied by the width taken as the outside diameter width of structure plus one foot on either side, multiplied by the length of the exposed facility inside the trench.

The volume calculation shall in all cases include, the volume occupied by the utility proper within the payment area described above. Overlapping volume dimensions measured as described above may occur when multiple utilities are encroaching trench excavations. In such cases, all such utilities shall be counted as one utility limited by the maximum encroachment of pipes, conduit(s), and conduit banks faces. The volume shall then be calculated as described above and shown on sketches JB 100E, JB 300A and JB 300B. Utilities identified as abandoned by the facility operator prior to be beginning of excavation, are not included for payment under this item.

JB 300.1 – Special care excavation and backfilling for utility facilities in city trenches less than 5' in depth

JB 300.2 – Special care excavation and backfilling for utility facilities in city trenches 5' or greater in depth

E. Price to Cover

The price shall cover the cost of all labor, material, equipment, insurance and incidentals necessary to completely protect and maintain and accommodate the integrity of the facilities without disruption of service to the customers and in accordance with contract documents. The price shall also include the cost of modifications to typical work methods, including water tap search excavations and the use of such methods as hand excavation around existing single and multiple facilities; backfilling and compaction around, over and under the utilities including the use of special methods, installation and removal of sheeting from around the facilities, and traffic plates that may be required to temporarily close and/or complete the work.

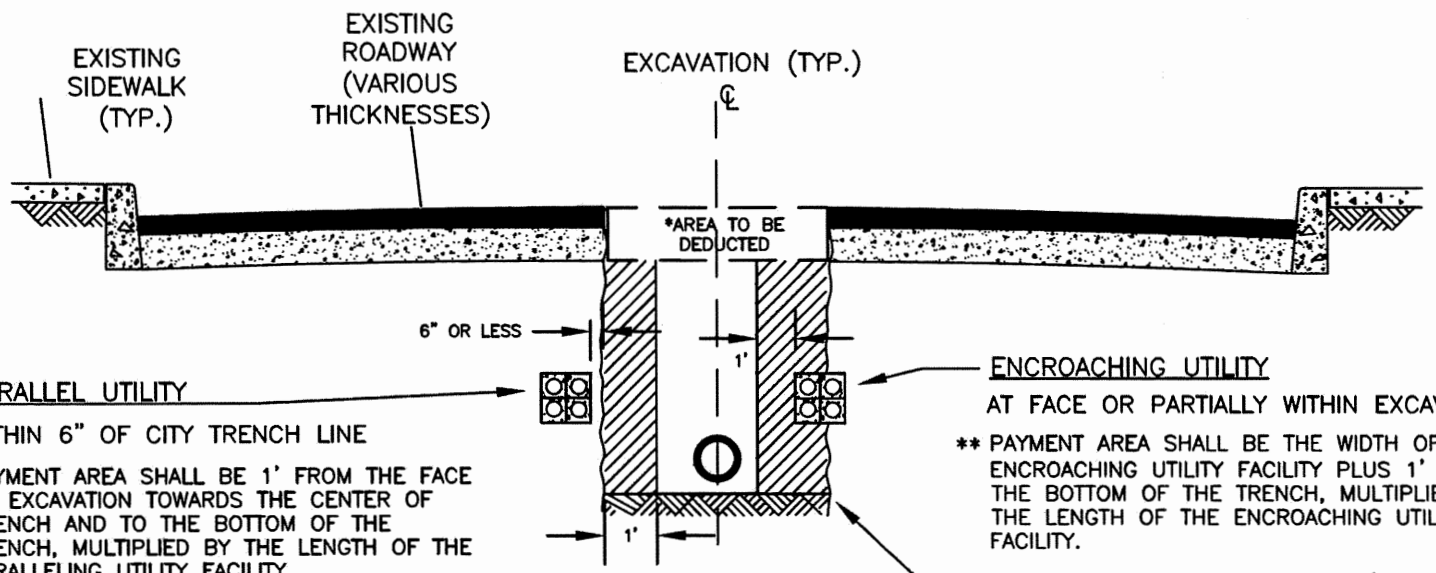
For item JB 300.1 – Depth shall be measured from the bottom of the existing roadway to the bottom of the trench up to a total trench depth of less than 5' measured from top of roadway.

For item JB 300.2 – Depth shall be measured from the bottom of the existing roadway to the bottom of the trench.

If the lowest utility facility is located at a depth less than 5' in a trench greater than 5' deep, then only item 300.1 shall apply. Only one payment for either 300.1 or 300.2 shall apply per trench wall.

F. References

1. Sketches JB 100E, 300A, JB 300B
2. NYS Industrial Code Rule 753



PROFILE

N.T.S.

NOTES:

* VOLUME OF ROADWAY SHALL BE DEDUCTED FROM PAYMENT AREA

** ONLY ONE PAYMENT SHALL APPLY PER TRENCH WALL

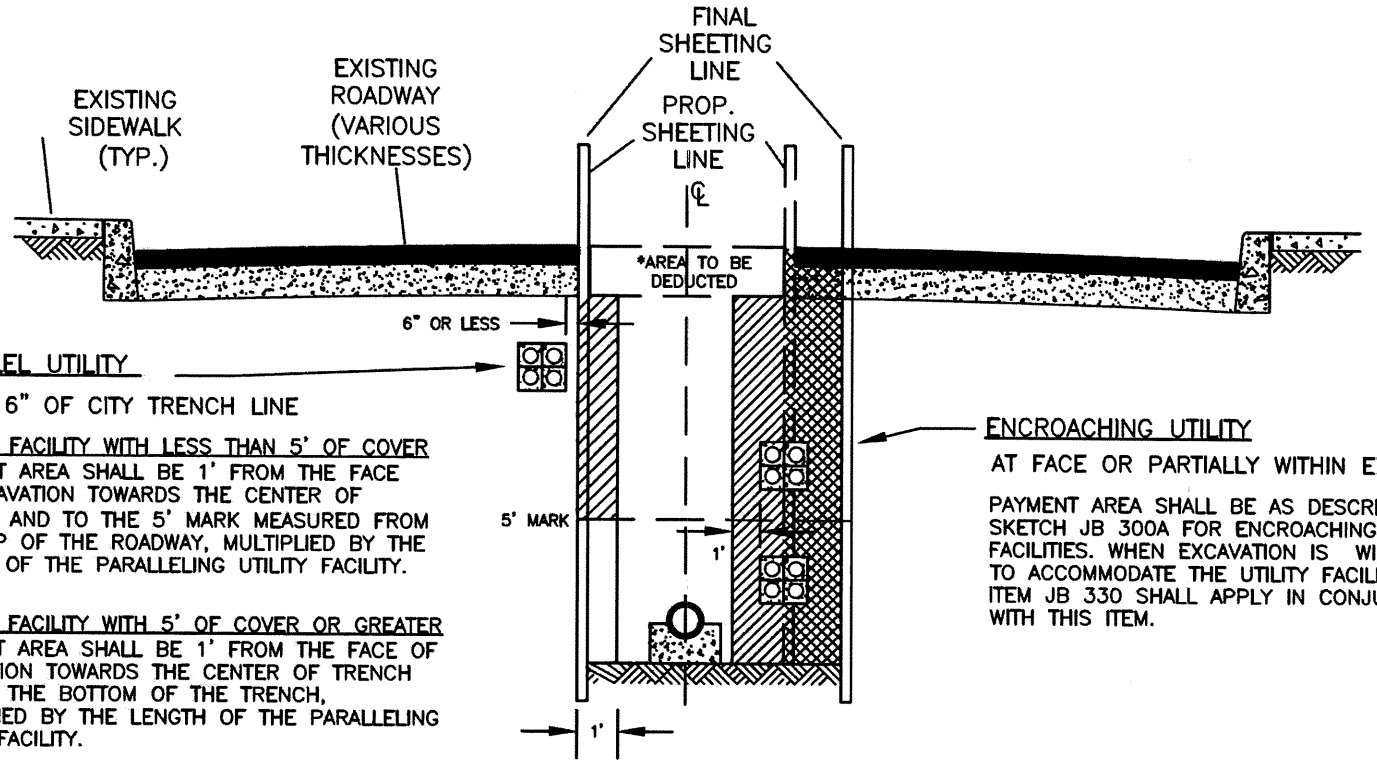
PAYMENT AREA

UTILITY PARALLELING/ ENCROACHING IN CITY FACILITY TRENCH LESS THAN 5' IN DEPTH

LAST REVISION	SKETCH NO.
6/30/2015	JB 300 A

JB-C60

JB-C61



PROFILE

N.T.S.

ITEM 300 PAYMENT AREA

ITEM 330 PAYMENT AREA

NOTES:

* VOLUME OF ROADWAY SHALL BE DEDUCTED FROM PAYMENT AREA

** ONLY ONE PAYMENT SHALL APPLY PER TRENCH WALL

UTILITY PARALLELING/ ENCROACHING IN CITY FACILITY TRENCH 5' AND GREATER IN DEPTH	
LAST REVISION 10/05/2021	SKETCH NO. JB 300 B

JB 306 - SPECIAL CARE EXCAVATION AND BACKFILLING WITHIN A CITY TRENCH

A. Description

Under this section, the Contractor shall provide all incremental labor, materials, equipment, insurance and incidentals required for trench excavation when protecting and maintaining and accommodating the integrity of utility facilities, including but not limited to:

1. Conduits;
2. Cables;
3. Structures;
4. Conductors;
5. Concrete Encased Conduit Duct banks;
6. Steel Pipes; Steam facilities and
7. Non Cost Sharing Gas

of various sizes and configurations within the city trench. This item shall apply to excavations intended to search and locate utility facilities marked under NYS Industrial Code Rule 753 and not found. The contract items specified under this section shall not be measured for payment in conjunction with any other types of utility items. All work shall be performed in accordance with contract plans, specifications, and at the direction of the facility operator(s).

B. Materials – N/A

C. Method of Construction

The Contractor shall maintain, protect and accommodate the integrity of all utility facilities within excavations. The facility operator(s) shall identify the locations of all utilities within the contract area as required by New York State Industrial Code Rule 753. As provided by the Rule, the Contractor shall use hand excavation methods (i.e. pick and shovel or hand held power tools) directly below the pavement base to expose the facilities and ascertain the spatial relationships and/or dimensions of these utilities with respect to the proposed excavation. Upon exposing the affected utilities sufficiently as determined solely by the facility operator(s), the Contractor shall be permitted to proceed with a combination of hand and machine excavation, as appropriate, within a zone of protection whose limit shall be defined as a perimeter located 12 inches from the outside face of each utility encroaching.

D. Method of Measurement

The unit price for this work item shall be based on the volume (C.Y.) of special care excavation calculated as follows:

- For locating utility facilities as directed by the facility operator which may or may not have marks in the street under NYS Industrial Code 753. The facility operator may at his sole discretion can direct the contractor to continue to excavate under this item to locate facilities outside the zone of protection of the marks as defined by industrial code 753 or if the utility representative has reason to believe an unmarked facility is present.

The volume calculation shall in all cases include, the volume occupied by the utility proper within the payment area described above. Overlapping volume dimensions measured as described above may occur when multiple utilities are encroaching trench excavations. In such cases, all such utilities shall be counted as one utility limited by the maximum encroachment of pipes, conduit(s), and conduit banks faces. The volume shall then be calculated as described above and shown on Sketch JB 300 A. Utilities identified as abandoned by the facility operator prior to be beginning of excavation, are not included for payment under this item.

E. Price to Cover

The price shall cover the cost of all incremental labor, material, equipment, insurance and incidentals necessary to completely protect and maintain and accommodate the integrity of the facilities without disruption of service to the customers and in accordance with contract documents. The price shall also include the cost of: modifications to typical work methods, loss of productivity due to slower rate of excavation including the use of such methods as hand excavation around existing single and multiple facilities; backfilling and compaction around, over and under the utilities including the use of special methods.

For item JB 0306 – Depth shall be measured from the bottom of the existing roadway to the bottom of the trench or the top of the utility facility (whichever is less). This item cannot be paid in conjunction with JB 100-116 for the same utility within the same excavation.

F. References

1. NYS Industrial Code Rule 753

JB 351T - UTILITY POLE SUPPORTS

A. Description

This section describes the temporary supports for utility poles at locations directed by the facility operator(s) in consultation with the Resident Engineer, in order to maintain such poles in their existing upright position without disturbing attached wires and equipment. The Contractor shall provide all labor, material, equipment, insurance, and incidentals required to construct, install and maintain an effective support system that will meet the stated objective.

B. Materials

All materials required to construct and maintain an effective support system shall be supplied by the contractor and approved by the facility operator.

C. Method of Construction

Where directed by the utility representative, the Contractor shall furnish, install and remove utility pole supports and maintain utility poles as shown on Sketch JB 351. Alternate methods proposed by the Contractor will be permitted if approved by the facility operator.

D. Method of Measurement

The quantity of utility pole supports to be measured for payment shall be the number of utility poles supported. The Contractor will be paid only once for each utility pole supported and maintained no matter how many different construction operations have an impact on the pole.

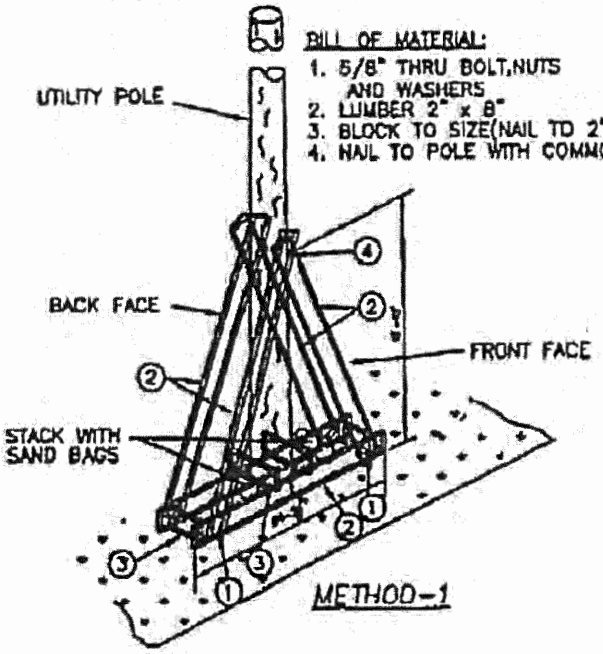
E. Price to Cover

The price shall cover the cost of all labor, material, equipment, insurance, and incidentals necessary to furnish, install, maintain and remove utility pole supports to completely support, maintain, protect, and accommodate the integrity of utility poles without disruption of service to customers. The price bid shall also include all additional impact cost associated with working around utility pole supports, poles and appurtenances.

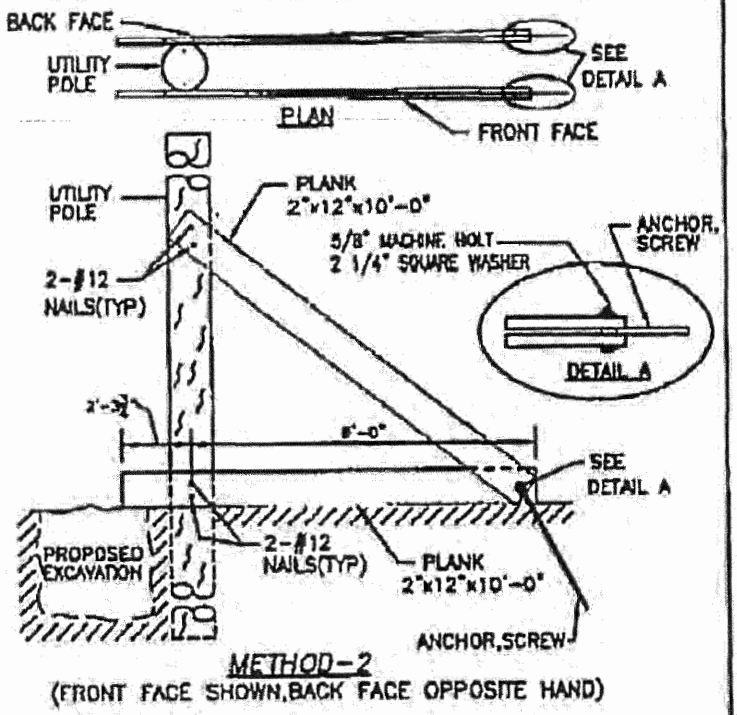
F. References

1. Sketch JB 351T

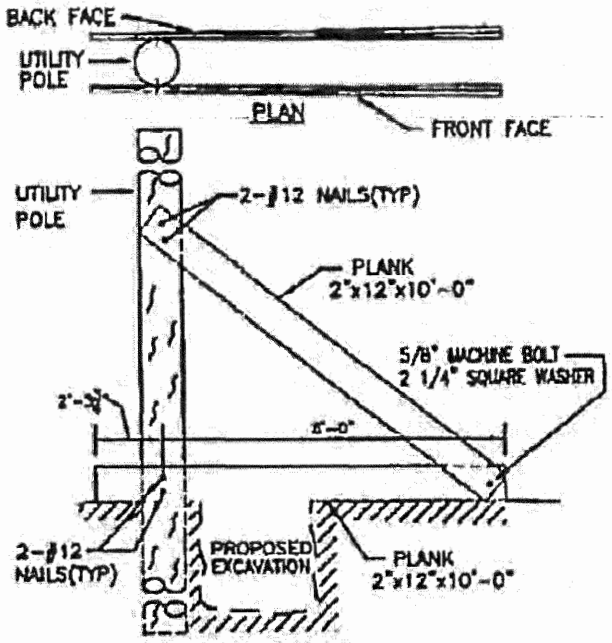
METHODS OF SHORING UTILITY POLES



METHOD-1



METHOD-2
(FRONT FACE SHOWN,BACK FACE OPPOSITE HAND)



METHOD-3
(FRONT FACE SHOWN,BACK FACE OPPOSITE HAND)

NOTES:

1. THESE METHODS OF SHORING ARE GENERAL GUIDES. FIELD CONDITIONS WILL DICTATE WHICH METHOD WILL BE USED.VARIATIONS OF THESE METHODS WHICH ACCOMPLISH THE SAME PURPOSE MAY ALSO BE UTILIZED WHEN APPROVED BY OVERHEAD CONSTRUCTION DEPARTMENT.
2. ANY INFORMATION NOT SHOWN WILL BE DETERMINED IN THE FIELD TO SUIT THE FIELD CONDITIONS WHEN APPROVED BY THE OVERHEAD CONSTRUCTION DEPARTMENT.

REVISIONS
3/7/18

JB SKETCH	
METHODS OF SHORING UTILITY POLES	
CONTRACT NO.	SKETCH NO. JB 351T

JB 401 - TRENCH EXCAVATION FOR ADJUSTMENT OF UTILITY FACILITIES

A. Description

Under this section, the Contractor shall provide all labor, materials, equipment, insurance and incidentals required to excavate by hand to locate and expose subsurface utilities encountered during construction in preparation for horizontal and vertical movement (covered by other Sections), and to support and maintain and protect the integrity of utility facilities including but not limited to:

1. Conduits;
2. Conductor(s) and/or cable(s);
3. Concrete Encased Conduit Bank(s);
4. Steel Pipe(s)

The trench to be excavated shall be determined by the size of the utility and the extent of adjustment required to avoid interferences as detailed on Sketch JB 402 A during all phases of contract work. The work shall be performed in accordance with the specifications, and at the directions of the facility operator in consultation with the Resident Engineer.

B. Materials

All materials used to support and maintain and protect shall be similar to those indicated on Sketches JB 100 A and 100 A-1 and shall be supplied by Contractor and be approved by the facility operator in consultation with the Resident Engineer.

C. Methods of Construction

The Contractor shall cut, break and remove various thickness of surface and base pavement, excavate by hand to expose, support and protect all utility facilities within the trench and then furnish and tamp backfill after work has been completed by the parties indicated under other Sections. The facility operator(s) shall identify the locations of all utilities within the contract area as required by New York State Industrial Code Rule 753. As provided by the Rule the Contractor shall use hand excavation methods (pick and shovel or hand held power tools) directly below the pavement base to expose the utility. Upon exposing the affected utilities sufficiently to determine relationships and/or clearances at the sole discretion of the facility operator in consultation with the Resident Engineer, the Contractor shall be permitted to proceed with a combination of hand and machine excavation sufficiently to wingback all interferences of cable and conduit. The trench shall be adjusted so as to provide a nominal cover of 24" over the highest conduit. The width of the trench shall be as directed by the facility operator in consultation with the Resident Engineer. The bottom of the trench shall be graded smooth and tamped to minimize initial settlement and to avoid "point" support of conduits. All stones projecting into the trench bottom shall be removed, and the voids backfilled before conduits are placed. Where streets are not to final grade, the cover shall be measured from the final grade, or the existing grade, whichever provides the deeper trench.

D. Method of Measurement

The Contractor shall be paid per cubic yard (C.Y.) of trench actually excavated to the limits directed as detailed in Sketch JB 402 A and to the satisfaction of the facility operator in consultation with the Resident Engineer. When two or more utility facilities requiring horizontal or vertical adjustment with different owners are in the same trench, the facility operators shall jointly determine the percentage of ownership of the trench.

E. Price to Cover

The price for excavation shall include the cost of all labor, materials, equipment, insurance, and incidentals necessary to completely expose, support and protect and maintain the integrity of the facilities without disruption of service to the customers and in accordance with the Contract Documents, associated maintenance of traffic, and traffic plates and sheeting that may be required, cut, break and remove various thickness of surface and base pavement, excavate by hand to expose existing structures, furnish, place and tamp backfill after required vertical and/or horizontal adjustments have been completed under other Sections. Any required removing, trucking, storing, and disposing of material shall be deemed included in the unit price. The price shall also include the cost of providing temporary pavement restoration. Permanent pavement restoration shall be paid under other items. This item shall include cutbacks required for permanent restoration of trenches paid for under other items. The removal of abandoned pipes, conduits structures are covered under other items. The price shall also include the cost of locating and supporting and protecting all utilities encountered including slings and beams installed for utility support when required. The price shall include maintaining the sheeting for the duration of the relocation and work required by the facility operator including but not limited to pipe-ripping covered under JB 402T.

F. References

1. NYS Industrial Code Rule 753
2. Sketch JB 100 A and A-1
3. Sketch JB 402 A

JB 402T - HORIZONTAL AND VERTICAL ADJUSTMENT OF TELECOMMUNICATIONS FACILITIES

A. Description

Under this section, the Contractor shall provide all labor, materials, equipment, insurance and incidentals required to adjust and support and protect and maintain and accommodate the integrity of telecommunication facilities including but not limited to:

1. Conduit(s);
2. Cables and Air Pipe
3. Concrete Encased/Capped Conduit Banks

The work shall be performed in accordance with specifications and at the direction of the facility operator in consultation with the Resident Engineer.

B. Materials

All materials used to adjust and support and protect and maintain and accommodate the integrity of utility facilities shall be similar to those indicated on the standard Sketches JB 100 A & 100 A-1 and shall be supplied by the Contractor and be approved by the facility operator in consultation with the Resident Engineer.

Materials used for replacing conduit(s) removed under this item shall be supplied by and installed by the Contractor and shall include but not be limited to the following:

1. Bends
2. Split and Solid Conduit(s) PVC and Steel
3. Couplings and Adapters PVC, Tile and Steel
4. Straps or plastic ties

PVC conduit and fittings shall be as supplied by American Pipe and Plastics, Type "C" or approved equal.
Steel Pipe and fittings shall conform to ASTM A53 Schedule 40
Tile to PVC adaptors shall be as supplied American U-Tel or approved equal.

C. Methods of Construction

Lengths of "wing-back" shall be determined by the facility operator in consultation with the Resident Engineer. All work performed prior to that approval shall be at the contractor's risk.

Methods of construction shall include but not be limited to the following:

1 Removal and Support

a. Break with hand held power tools, remove and dispose of plain or reinforced concrete encasement.

b. Break with hand held power tools, remove and dispose of conduit(s) enclosures and conduit that contain conductor(s) and/or cable(s) except steel/Iron conduits, inner ducts and 1 ¼" to 1 ½" PVC "quad ducts. Breaking – "ringing and ripping" - of steel/iron conduits belonging to ECS shall be performed by ECS forces only. Contractor shall make safe the work area to accommodate the ECS forces.

c. Support and protect exposed conduits, cables, innerduct and airpipe as shown in Sketch JB 100A-1 and approved by the facility operator in consultation with the Resident Engineer.

d. ECS tenants cables may require inspection, testing and encapsulation before they can be shifted. Contractor shall make safe the work area to accommodate these forces. Contractor shall be notified by the facility operator of the ECS tenant requirements before the conduits are broken-out.

2 Adjust or Move Conductor(s) and/or cable(s) and support

a. Cable shall be relocated horizontally and/or vertically as directed by the facility operator in consultation with the Resident Engineer

b. Support and protect conductors and/or cables as shown on Sketch # JB 100 A-1 and/or as directed by the facility operator.

3. Replacement, Encasement, Protection and Support

a. Replace vacant and loaded conduit(s) with solid and/or split conduit(s) and adapters.

1) Vacant Conduit - Repairs to conduits shall not be permitted. All damaged or impaired lengths of conduit(s) shall be removed and replaced with new conduit(s). The number of vacant conduits replaced shall be confirmed by the facility operator.

2) Loaded Conduit - Replacement of conduits that are removed from around existing cable(s) or innerduct shall be accomplished with split plastic (PVC) or split steel conduits as directed by the facility operator. Where split and solid plastic or steel conduit is used, the conduit(s) shall be spaced 1½ inches from each other. All split PVC shall be secured with plastic straps spaced at a maximum distance of eighteen (18") inches. Plastic conduit shall be joined with plastic couplings.

3) Adapting - Joining plastic conduit to existing conduits of other diameters or material shall be done using single or multiple adapters, (supplied by contractor).

b. If due to subsurface conditions, the cover is less than 20" from finished grade, the duct shall be protected with steel plates furnished by the contractor and measured for payment under Item JB 403T.

c. Support and protect cable(s) and/or conductor(s) and conduit(s).

d. Verify vacant conduits and provide pull ropes.

e. Encase all exposed conduit with concrete (f'c = 1200 to 1500 psi maximum) with slump commensurate to completely fill voids around conduits. Concrete encasement shall extend to two (2") inches beyond the limits of the duct bank vertically and horizontally.

D. Method of Measurement

The quantity to be measured for breaking out conduits, removing concrete, moving, protecting and supporting conductors and replacing conduits with split and solid conduit, shall be paid for by the linear foot (L.F.) of each conduit replaced. A linear foot of conduit shall be defined as one (1) single conduit measured along its longitudinal axis that has been broken out or moved from its original location either horizontally and/or vertically and measured in its final location. Quad PVC ducts produced as one unit shall be consider one duct for each quad unit. All conduits removed under this section and not restored shall be paid at 60% of the appropriate item in this section.

Multiple tile duct bank with concrete protection cover is not considered concrete encasement.

Each type of utility adjustment shall be paid for separately, the types of utility adjustments are defined as follows:

JB-402T.1 Existing Concrete Encased Non-Steel/Iron Conduits Placed in Final Position without Concrete Encasement. (L.F.)

JB-402T.1A Existing Concrete Encased Non-Steel/Iron Conduits Placed in Final Position with Concrete Encasement. (L.F.)

JB-402T.2 Existing Non-Concrete Encased Non-Steel/Iron Conduits Placed in Final Position without Concrete Encasement. (L.F.)

JB-402T.2A Existing Non-Concrete Encased Non-Steel/Iron Conduits Placed in Final Position with Concrete Encasement. (L.F.)

JB-402T.R1A Existing Concrete Encased Steel/Iron Conduits Placed in Final Position with Concrete Encasement. (L.F.)

JB-402T.R2A Existing Non-Concrete Encased Steel/Iron Conduits Placed in Final Position with Concrete Encasement. (L.F.)

JB-402T.V1 Existing Vacant Concrete Encased Conduits Placed in Final Position without Concrete Encasement. (L.F.)

JB-402T.V1A Existing Vacant Concrete Encased Conduits Placed in Final Position with Concrete Encasement. (L.F.)

JB-402T.V2 Existing Vacant Non-Concrete Encased Conduits Placed in Final Position without Concrete Encasement. (L.F.)

JB-402T.V2A Existing Vacant Non-Concrete Encased Conduits Placed in Final Position with Concrete Encasement. (L.F.)

JB-402T.J1 Existing Concrete Encased Conduits Placed in Final Position without Concrete Encasement. (L.F.) in Which Only Conduit Joints are Broken Out and Conduits Remain Intact.

JB-402T.J1A Existing Concrete Encased Conduits Placed in Final Position with Concrete Encasement. (L.F.) in Which Only Conduit Joints are Broken Out and Conduits Remain Intact.

JB-402T.J2 Existing Non-Concrete Encased Conduits Placed in Final Position without Concrete Encasement. (L.F.) in Which Only Conduit Joints are Broken Out and Conduits Remain Intact.

JB-402T.J2A Existing Non-Concrete Encased Conduits Placed in Final Position with Concrete Encasement. (L.F.) in Which Only Conduit Joints are Broken Out and Conduits Remain Intact.

E. Price to Cover

The unit price bid per linear foot (L.F.) of conduit shall cover the cost of all labor, material, equipment, insurance, and incidentals necessary to shift, adjust, support, protect, maintain and accommodate the integrity of utilities without disruption of service to the facility operator's customers and in accordance with contract documents. The price bid shall also include the cost of: breaking out, removal and disposal of plain or reinforced concrete encasements, conduits (except iron/steel), support of cables/conduits, replacement with field split, split and solid conduits, adapters, clamps, straps and couplings; verify vacant conduits and provide pull ropes; furnish and install concrete encasement, supports, slings and beams for utility support; changes of sheeting method and/or configuration when required and where necessary to accommodate the utilities during all phases of contract work; and removal of sheeting around the utilities, and all else necessary and required to complete the work.

The unit price shall include potential delays and extended performance due to time allowance for the pipe-ripping operations.

The unit price shall include providing access to the facility operator pipe-ripping crews and tenants to verify and test cables before, during and after the pipe ripping operation completed by the facility operator or specialized contractor hired by the facility operator and after conduit removal by the Contractor. The unit price shall include, but not limited to, opening and closing of fences; removal and replacement of temporary timber curb and opening and closing of traffic plates. Access to adjacent manholes impacted by the run is included in this item. JB 450 shall not be used in conjunction with JB-402T as JB-402T covers access to the work site at all times for work required under this item.

F. References

1. Sketches JB 100A and 100A-1
2. JB 403T
3. American Pipe and Plastics, P.O. Box 577, Binghamton, N.Y. 13902
4. American U-Tel, 9760 Smith Rd., Willoughby, Ohio 44094

JB 402T.3 - ACM REMOVAL AND DISPOSAL OF VERIZON/ECS CONDUITS WITH ASBESTOS CONTAINING MATERIAL TRANSITE PIPES (ACM-TP) UP TO AND INCLUDING 4" DIAMETER

A. Description

Under this item the contractor shall provide all labor, equipment, transportation, insurance and incidentals to remove and dispose of asbestos containing material - transite pipe (ACM-TP).

The contractor shall strictly adhere to all environmental requirements and work practices and notifications specified under construction details.

The transite conduits (ACM-TP) to be removed contain active cables and these cables will remain active during the transite conduits removal.

All removal and disposal of ACM-TP shall be done by pre-qualified contractors (or sub-contractors) as specified under method of construction.

B. Materials

The contractor shall supply separate dumpsters to be used exclusively for the removal and disposal of the ACM-TP and all other materials such as bagging, dumpster linings, respirators and filters, enclosures and all other incidental material required for the removal and disposal of the Verizon/ECS ACM-TP in accordance with laws, rules and regulations of Federal, State or local agencies.

C. Method of Construction

a. Work Scope

Removal of concrete encased conduits shall be accomplished by hand held chipping hammers. The removal should be in a pre-identified operation in order to minimize the potential release of airborne asbestos fibers from the ACM-TP.

b. Notification And Variance

Verizon/ECS is required by the New York City Department of Environmental Protection (NYCDEP) to obtain a site specific variance.

The contractor shall prepare the variance application letter and the NYCDEP Form ACP-9 and will submit them to the NYCDEP not sooner than four (4) weeks prior to the start of the ACM-TP removal.

The contractor is responsible for preparing the NYCDEP Form ACP-7 together with NYCDEP Form ACP-9 as the applicant and providing these forms to Verizon/ECS for review and signature prior to submittal to the NYCDEP seven

(7) weeks prior to the commencement of the project (Notice to begin construction).

The contractor shall prepare the New York State Department of Labor (NYSDOL) notification Form DOSH-483 prior to submittal to the NYSDOL at lease four (4) weeks prior to the commencement of the project.

The contractor shall prepare the United States Environmental Protection agency (USEPA) Notification of Demolition and Renovation form for submittal four (4) weeks prior to the commencement of the project.

c. Vendor Prequalification

All subcontracted environmental parties which shall include but not be limited to asbestos abatement contractor, project monitoring firm, air sampling and analytical contractor can be selected from Verizon's currently approved vendor lists. Should the contractor elect to use his own list, that information shall be provided to Verizon/ECS for review/ approval at least four (4) weeks prior to date the ACP-7 form is submitted to Verizon.

d. Waste Transport and Disposal

The ACM-TP that is removed will be disposed of as ACM waste at an asbestos landfill. This landfill site shall be selected from one of Verizon's list of approved disposal sites. The contractor will identify and obtain approval from Verizon for the transporter. The contractor can select one of the Verizon's currently approved transporters, or alternatively select a transporter of its own. Should the contractor elect to use latter, that information shall be provided to Verizon/ECS for review/approval at least 4 weeks prior to the date the ACP-7 is submitted to Verizon.

An original of the asbestos waste manifest is to be provided to the Verizon/ECS representative for all shipments that leave the work site. A signed copy (by the selected landfill) of the waste manifest is to be provided to Verizon/ECS not later than 10 days from the date the shipment leaves the site.

e. Exhibits

The forms are a component part of this item.

1-NYCDEP Form ACP-7
2-NYCDEP Form ACP-9R1
3-NYSDOL Form DOSH-483
4-USEPA - Notification Form

f. Work Plan

1. For this item the contractor must submit to Verizon/ECS for review and approval a detailed site specific work plan.

2. The contractor must submit to Verizon/ECS for review and approval any alternate proposals for variance requested from Regulatory Statutes (NYSDOL & NYCDEP).

3. The contractor shall provide all sampling and laboratory analysis required under the Industrial Code Rule 56 Subpart 17 and all applicable Blanket Variances. All sampling and analysis shall be performed by a firm independent from the Contractor. The price for the cost for compliance air monitoring sampling and analysis shall be included in the price bid for listed items.

4. Within five (5) calendar days of the receipt of the results of any part of the compliance air sampling and analysis, the Contractor shall forward a copy of those results (showing the name and address of the laboratory, the type of test performed, the method of measurement and all information normally relevant to sampling and analysis of asbestos remediation procedure) to Verizon/ECS on-site representative.

g. Project Folder

Upon completion of the abatement, the Contractor shall provide a complete job folder with the following documents, which shall include chain of custody records:

a. Copy of Supervisor/Handler certifications
b. Copy of the Subcontractor's Enclosure Entry Permit
c. Result of Analysis for All Bulk Samples, Air and Clearance Monitoring
d. Copy of all Notifications (City, State, Federal)
e. Copy of the Vendor's Certificate of Insurance
f. Copy of the Waste Transporter Permit
g. Signed Asbestos Waste

D. Method of Measurement

Payment under this item shall be paid for by the linear foot (L.F.) of each conduit removed. A linear foot of conduit shall be defined as one (1) single conduit up to and including 4" nominal diameter measured along its longitudinal axis that has been broken out and removed.

E. Price to Cover

The unit price per linear foot (L.F.) shall cover the actual costs of all supervision, labor, insurance, (including asbestos liability insurance), materials and equipment necessary to complete the work. The Contractor shall cover the cost of preparing variance application, all filing fees and will submit the application with associated fees to the NYCDEP for processing.

Any contractor's alternative proposals for variance requested from regulatory statutes (NYSDOL & NYCDEP) shall be also included in the actual cost.

Excavation and backfill shall be paid for under JB 401.

F. References

N/A

JB 403T – FURNISH AND INSTALL STEEL PROTECTION PLATES FOR TELECOMMUNICATIONS FACILITIES

A. Description

Under this section, the Contractor shall furnish and install as required permanent steel protection plates over telecommunications facilities where directed by the facility operator(s).

B. Materials

Material shall be:

¼" thick ASTM A-36 plates. Maximum size 24" by 48".

3/8" thick ASTM A-36 plates. Maximum size 12" by 18".

Thickness to be determined by the facility operator(s)

C. Method of Construction

Steel protection plates shall be placed in accordance with the attached facility operator(s) standard sketch JB 403T. All protective plates shall overlap a minimum of 3".

D. Method of Measurement

The quantity for payment shall be the area of permanent steel plating protection furnished and installed (excluding overlap) and measured in place in Square Feet (S.F.).

JB 403T.1 – Furnish and Install 1/4" thick steel plate (S.F.)

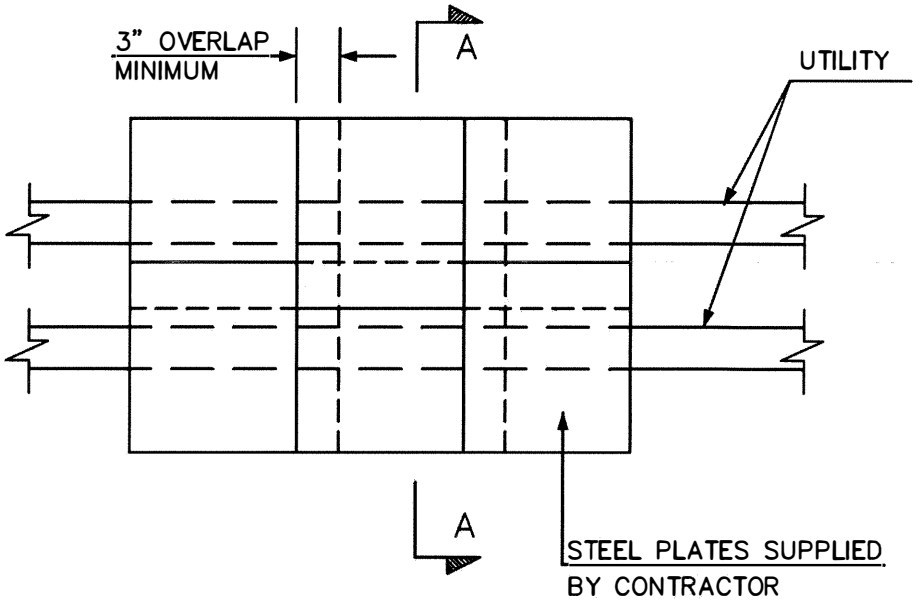
JB 403T.2 – Furnish and Install 3/8" thick steel plate (S.F.)

E. Price to Cover

The price shall cover the cost of all labor, material, equipment, insurance, and incidentals necessary to complete the work.

F. References

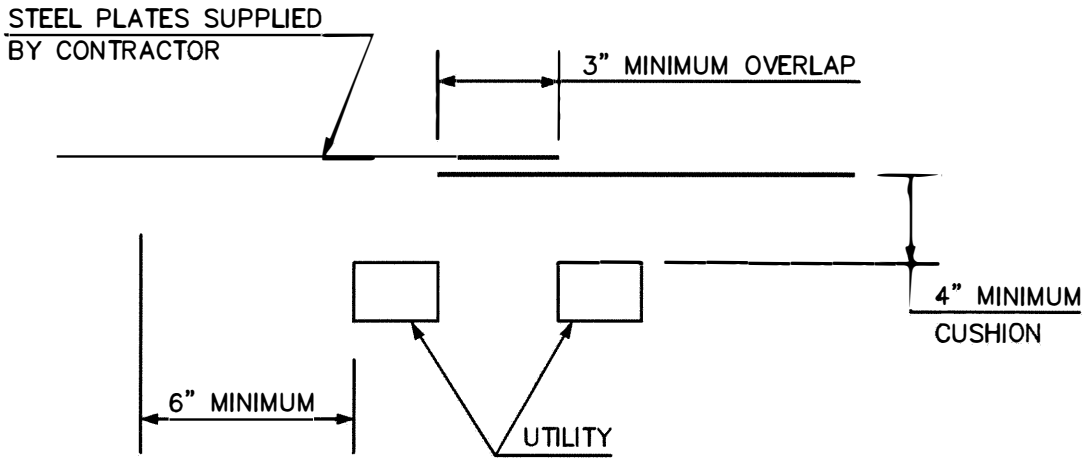
Sketch JB 403T



PLAN

NOT TO SCALE

AREA FOR PAYMENT
SHALL BE AS MEASURED
IN PLACE (EXCLUDE OVERLAP)



SECTION A–A

NOT TO SCALE

TYPICAL PLATE SIZES:
6" x 48" x 1/4"
12" x 48" x 1/4"
24" x 48" x 1/4"
12" x 24" x 3/8"

J.B. SKETCH	
PLACING STEEL PROTECTION PLATES FOR COMMUNICATION FACILITIES	
REVISIONS	
09/13/2017	CONTRACT NO. / SKETCH NO. JB 403 T

JB 404 - PIER AND PLATE METHOD OF PROTECTION FOR DUCTILE IRON WATER MAINS AND OTHER SHALLOW FACILITIES

A. Description

Under this section the Contractor shall provide all labor, materials, equipment, insurance and incidentals required to protect ductile iron water mains that are installed with a cover of 24 inches or less crossing over various utility facilities. This section shall also apply for other facilities with shallow cover where protection plates are not sufficient and pier and plate method is required. The work shall be performed in accordance with the contract plans, specifications and at the direction of the facility operator.

B. Materials

The Contractor shall supply all material (concrete, beams, plates, etc.) necessary to provide the pier and plate method of protection as shown on BWS Standard Drawing No. 46464-Z.

C. Method of Construction

The Contractor shall provide pier and plate protection in accordance with BWS Standard Drawing No. 46464-Z. The Contractor shall support, maintain and accommodate the water main and all other utility facilities during the installation of the pier and plating components. The Contractor shall be solely and totally responsible for disturbances and/or any damages to such facilities.

D. Method of Measurement

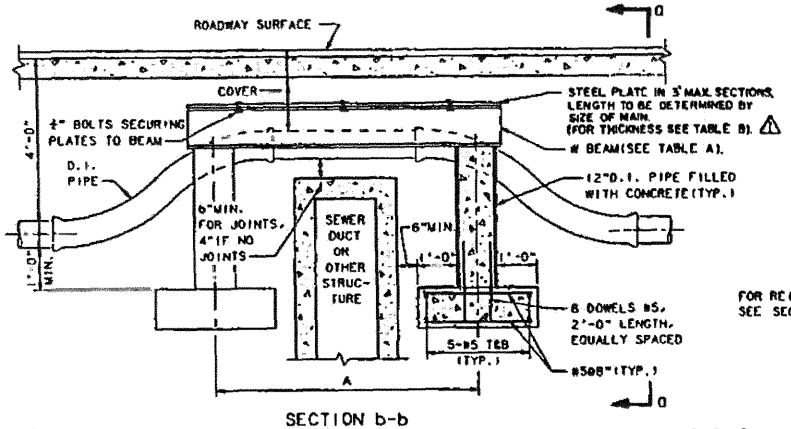
The quantity to be measured for payment shall be the additional amount of square foot (S.F.) of steel plate required to be installed to protect ductile iron water mains crossing over utility facilities with a cover of 24 inches or less, or for other shallow facilities where the pier and plate method may be required, as directed by the Facility Operator.

E. Price to Cover

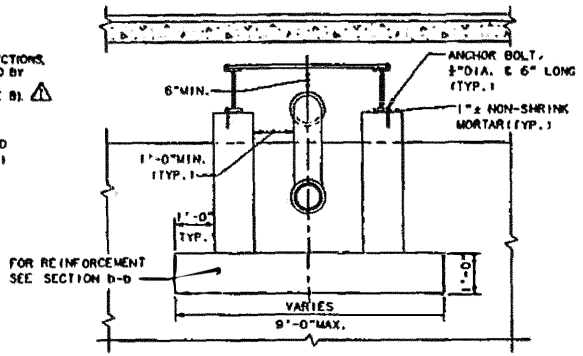
The price shall cover the cost of all supervision, labor, material, equipment, and incidentals necessary to construct the specified method of protection. The work shall also cover the cost to cut, break and remove additional pavement, additional excavation, special care excavation around utilities, sheeting, maintenance of traffic, traffic plates, and to furnish and install additional backfill and pavement restoration.

F. References

1. BWS Standard Drawing No. 46464-Z



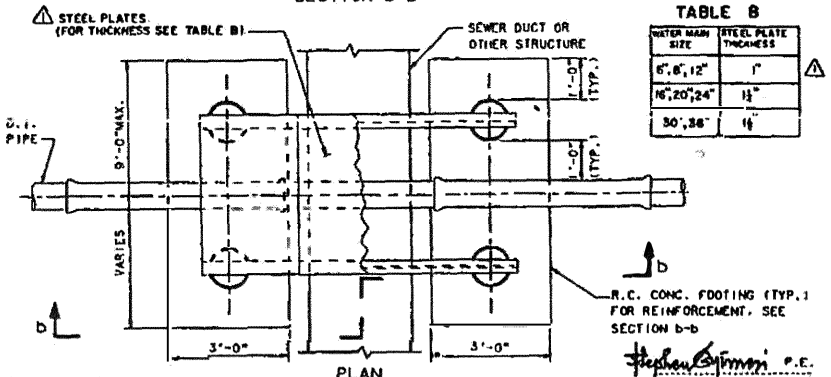
SECTION b-b



SECTION a-a

TABLE A

A Ft.	M_y k-ft	S_x min. in^3	SUGGESTED BEAM SIZE	
5	29.13	15.8	W12x16 W10x17	W8x18
6	35.7	19.2	W12x19 W10x19	W8x24
7	42.5	22.9	W12x22 W10x22	W8x28
8	54.8	30.44	W12x26 W10x30	W8x35
9	66.73	37.07	W14x30 W12x30	W10x39
10	79.1	43.94	W14x34 W12x35	W10x45
11	91.7	50.94	W14x38 W12x40	W10x49
12	104.7	58.17	W14x43 W12x45	W10x54
13	117.92	65.51	W16x40 W14x48	W12x53
14	131.5	73.06	W16x45 W14x53	W12x58
15	145.3	80.72	W16x50 W14x61	W12x65



PLAN

TABLE B

WATER MAIN SIZE	STEEL PLATE THICKNESS
6",8",12"	1"
16",20",24"	1½"
30",36"	1¾"

NOTES:

1. OFFSETS SHALL HAVE RESTRAINED JOINTS.
2. CLEAN FILL TO BE THOROUGHLY COMPACTED AROUND PIPE BETWEEN BEAMS.
3. ALL PAVEMENT RESTORATION OVER PLATES TO HAVE 6" MIN. CONCRETE BASE. WHEN THE STEEL PLATE IS ADJACENT TO THE BOTTOM OF THE CONCRETE BASE, A BOND BREAKER SUCH AS TAR PAPER SHALL BE INSTALLED BETWEEN THE PLATE AND THE CONCRETE.
4. THE DESIGN FOR PROTECTION OF MAINS MAY BE VARIED AS REQUIRED FOR A PARTICULAR LOCATION, BUT SHALL CONFORM TO THE GENERAL REQUIREMENTS AS SHOWN ON THIS DRAWING. ANY MAJOR DEVIATION FROM THESE REQUIREMENTS SHALL BE APPROVED BY THE ENGINEER.
5. SUPPORT OF PIERS OR BEAMS DIRECTLY ON SEWER, SUBWAY OR OTHER STRUCTURES SHALL BE APPROVED BY THE ENGINEER.
6. IF COVER IS LESS THAN 1'-6", PIPE SHALL BE INSULATED WITH 2" MIN. THICK OF APPROVED INSULATION WITH ALUMINUM JACKET.
7. DIMENSIONS SHOWN FOR CONCRETE SUPPORT ARE APPLICABLE UP TO AND INCLUDING 36" DIAMETER OFFSET.
8. STEEL BEAMS, EXTERIORS OF PIPE COLUMNS, AND OTHER EXPOSED METAL COMPONENTS SHALL BE COATED WITH COAL TAR ENAMEL BEFORE BACKFILLING THE EXCAVATIONS.

⚠8. ALL STRUCTURAL STEEL SHALL CONFORM TO ASTM A-36

NO.	DATE	REVISIONS	DIV. ENG.	CH. OF DES.	DEP. DIR.
⚠	02-10-87	ADDED TABLE B & NOTE 8			

DRAWN BY: A.S./CAD
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CITY OF NEW YORK
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WATER SUPPLY

METHOD FOR PROTECTING D.I. WATER MAINS WITH SHALLOW (LESS THAN 24") COVER

SCALE: NOT TO SCALE MAY 1986

46464-2

JB 405 - EXCAVATION FOR INSTALLATION OF UTILITY FACILITIES

A. Description

Under this section, the Contractor shall provide all labor, materials, equipment, insurance and incidentals necessary to excavate, maintain trenches and backfill for the installation of new utility facilities including but not limited to:

1. Conduits
2. Non-cost sharing gas facilities
3. Steam mains
4. Steel pipe(s)

The trench to be excavated shall be determined by the size of the utility facility to be installed. The work shall be performed in accordance with applicable specifications, at the direction of the facility operator.

B. Materials

All materials used to excavate and prepare trenches shall be supplied by the Contractor and be approved by the facility operator.

C. Methods of Construction

1. Excavation – The Contractor shall saw cut and/or break and remove existing roadway which may include but is not limited to, asphalt, concrete and cobblestone, utilizing approved equipment that leaves a neat straight joint line along the juncture with subsequently replaced pavement. The Contractor shall be permitted to excavate utilizing a combination of machine and hand excavation, as field conditions warrant and as directed by the facility operator. The trench shall be adjusted so as to provide a nominal cover as defined in the specifications for the facility being installed over the new utility facilities or as required based on field conditions, applicable specifications, or as directed by the facility operator. The width of the trench shall be as directed by the facility operator or as shown on Sketch JB 603T (ECS only). The bottom of the trench shall be graded smooth with a minimum cushion of 3 inches of backfill material or in conformance with applicable specification and be compacted, to minimize initial settlement and to avoid "point" support of new utility facilities. All stones projecting into the trench bottom shall be removed, and the voids backfilled before the new utility facilities are installed. Where streets are not to final grade, the cover shall be measured from the final grade, or the existing grade, whichever provides the deeper trench. Excavation in the vicinity of utilities and other structures shall be performed using hand tools. The contractor shall properly dispose of all materials excavated away from site. Size and location of excavation shall be as directed by the facility operator. Trenches shall be excavated to a depth and size necessary to facilitate the installation of the new utility facility and in conformance with the applicable specification. All existing facilities that are encountered during trench excavating shall be protected in a manner suitable to the facility operator. Tight sheeting shall be used, as required, based on field conditions and/or when the depth of excavation is equal to or greater than five feet. Skeleton type sheeting will not be permitted. The sheeting required shall be furnished and installed in full compliance with the State of New York and Federal Safety Code requirements and in compliance with applicable specifications and/or as directed by the facility operator.

Care shall be taken that no existing utility facilities or other structures are broken or damaged. Contractor shall excavate all material encountered necessary to facilitate the installation of the new utility facilities, and as directed by the facility operator. Care should be taken to avoid damage to existing utility facilities and structures, and to pavements and their foundations, and to avoid caving or sliding banks within the excavation.

2. Maintenance of Trench Excavation - Excavated trenches shall be maintained free of debris and kept dry by the contractor. In order to accomplish this, contractor shall, upon completion of excavation and placement of sheeting (as required and/or if depth is equal to or greater than five feet), furnish and install adequate steel plates, as directed by the facility operator, and posting over the excavated trenches and shall temporarily remove all equipment debris and workers, and relocate barricades in order to open the full width of street to traffic during non-working hours, as required based on DOT requirements. The Contractor shall then, at no additional cost, relocate such barricades barrels, cones and other warning devices and remove steel plates, as and when directed by the facility operator to facilitate the installation of the new utility facility. When work is being performed and the excavations are not covered with steel plates, the Contractor shall provide complete and safe access to the trench as may be required, and shall provide construction barricades and maintain traffic at all times as shown or as directed by the facility operator. Upon completion of installation of the new utility facility, the trench excavation shall be backfilled by the contractor in accordance with Contract requirements and all backfill material shall conform to contract specifications for such purpose.

3. Pavement and Sidewalk Restoration - After backfilling is completed, the contractor shall install temporary pavement consisting of six inches (6") thick asphaltic concrete mixture in roadway areas or a two inches (2") thick asphaltic concrete mixture in sidewalk areas in order to maintain existing pedestrian and vehicular traffic. This temporary pavement shall be maintained until permanent replacement as specified in contract.

D. Method of Measurement

The quantity to be measured for payment shall be the number of cubic yards (C.Y.) of trench actually excavated and backfilled as directed by the facility operator or as shown on Sketch JB 603T for JB 603T Items. The volume occupied by existing pipes or other structures will not be deducted from the total volume measured.

JB 405.1 - Trench Excavations for installation of Utility Facilities with total depths less than five feet (C.Y.)

JB 405.2 - Trench Excavations for Utility Facilities with total depths equal to or greater than five feet (C.Y.)

E. Price to Cover

The unit price bid for the various trench excavation items shall include the cost of all labor, materials, equipment, insurance, and incidentals necessary to completely expose, protect and maintain the integrity of the facilities without disruption of service to the customers and in accordance with the contract documents. The price shall also include, installation of traffic plates as well as opening and closing of plates as may be required in order to provide access to trench; installation, removal and maintenance of tight sheeting as required; cutting, breaking and removing various thickness of surface and base pavement; excavation by hand to expose

existing structures; furnishing, placing and compacting clean backfill following installation of utility facility in compliance with DOT requirements. Any required removing, trucking, storing, and disposing of material shall be deemed included in the unit price. The price shall also include the cost of providing temporary pavement restoration. Permanent pavement restoration shall be paid under city items. The price shall also include the cost of locating and protecting all utilities encountered as required.

Clean backfill material in accordance with specifications shall be used around gas facilities and critical facilities shall be paid for under item JB 303.

F. References

1. Item JB 303
2. Sketch JB603T
3. Con Edison Specifications, latest revisions

CEHSP S13.00 – Excavation and Trenching

JB 450 – CONSTRUCTION FIELD SUPPORT

A. Description

Under this section, the Contractor shall provide all labor, materials, equipment, insurance and incidentals necessary to provide construction field support, while maintaining and protecting surface and subsurface facilities, at various locations approved solely by the facility operator. The Contractor shall encounter various surface and subsurface utility facilities while performing various construction field support operations, which may include but are not limited to working over, under, adjacent to, around, in between and in close proximity of:

1. Conduits
2. Conductors
3. Concrete encased conduit banks
4. Steel pipes
5. Gas mains
6. Steam mains
7. Oil-o-static facilities
8. Utility structures and covers

The actual construction field support operation to be performed by the Contractor shall be performed in accordance with the contract plans, specifications or as determined based on actual field conditions and at the sole discretion and direction of the facility operator. This item shall apply to various field support operation tasks for which there are no other applicable JB Items to cover the required work. This item will not apply and will not be paid when there are other applicable JB items available either partly or completely covering tasks described below as determined solely by the facility operator.

The Contractor is expressly notified that the work under this Section affects the timing of other work to be performed on this Contract. The Contractor is advised to carefully investigate the relationship between this work and other work and adjust his schedule accordingly. The Contractor shall also coordinate his efforts with that of the facility operator with respect to all work impacting the facilities in question.

B. Materials

All materials used to provide construction field support shall be supplied by the Contractor and be approved by the facility operator in consultation with the Resident Engineer.

C. Methods of Construction

It is the intent of this item that the Contractor provides field support construction crews suffice to perform various item type tasks required as described. For the purpose of this item a crew consists of more than one non-management individual. The Contractor shall provide all labor and equipment necessary to perform the required task as described below under existing field conditions at various locations and at the sole discretion and direction of the facility operator in consultation with the Resident Engineer. The Contractor shall perform the necessary construction field support, while maintaining and protecting surface and subsurface facilities. The Contractor shall employ approved methods of operation, including the use of appropriate equipment and tools that will enable him to complete the field support operation work as described in the Item

Type description below. Existing facilities that are encountered during the construction field support operation shall be supported and protected similar to those indicated on sketches JB 100A and 100B and in a manner suitable to the facility operator in consultation with the Resident Engineer and are deemed included in this item except as included under JB-402T. The Contractor shall properly dispose of all materials excavated away from site, which may require the use of hand-held tools and equipment in order to ensure that the integrity of the underground utility facilities is not jeopardized. Care should be taken to avoid damage to existing utility facilities and structures, and to adjacent curbs, sidewalks, pavements and their foundations, and to avoid caving or sliding banks within excavations.

D. Method of Measurement

1 – Quantity - The quantity to be measured for payment shall be the number of actual crew hours (CRHRS.) provided by the Contractor for performing the various types of construction field support operation as directed by the facility operator in consultation with the Resident Engineer.

2 – Type – The unit type to be measured for payment shall be based on the actual task performed by the contractor and covered by the applicable Item Type. The tasks described within the Bid Item Type below are provided as a guide only as to the general nature of the various functions included, but these examples in no way limit the use of the item to these functions only. The contractor should use this information in order to approximate the various required crew sizes necessary to perform the work covered by this item in a productive, safe and efficient manner. The actual construction crew size required to perform the field support operation shall be determined solely by the contractor in order to perform the required construction field support operation. It is the responsibility of the contractor to provide appropriate field support crews capable of performing required tasks in a productive, safe and efficient manner. The actual crew performing the operation will not be considered, by the facility operator in consultation with the Resident Engineer, when determining the applicable item type, which shall be only as per the task performed.

Note: Only one measurement type will be used for each defined construction field support area.

Type .1 = Construction Field Support requiring an average size survey crew that will perform typical field survey functions and provide quality data analysis reports.

Type .2 = Construction Field Support requiring an average small size crew capable of performing various tasks not requiring the use of a machine or operator, which may include but are not limited to: opening/closing subsurface structure cover(s), setting/resetting MPT setup(s), assisting Utility Facility/Specialty crew(s) not included in JB 402T or JB 450.5, performing conduit occupancy identification, clean-up storage work-site area, etc.

Type .3 = Construction Field Support requiring an average medium size crew capable of performing various tasks which include the use of a machine and operator, which may include but are not limited to: excavations due to cable failures, including emergency type excavations, construct manhole enclosures, installing support system for utility facilities, dewatering utility structures and excavations, opening/closing traffic and/or pedestrian plates, etc. not included in JB 402T or JB 450.5.

Type .4 = Construction Field Support requiring an average large size crew capable of performing various tasks that requires the use of multiple machine(s) and operator(s), which may include but are not limited to: assistance during heat contingency, welding, repositioning and placing large diameter pipe, etc.

Type .5 = Construction Field Support requiring an average small size crew when requested by the facility operator on an on-demand hourly basis for a maximum of 2 hours per day or as approved by the facility operator to assist the facility operator or specialty contractor hired by the facility operator in shifting and supporting the conduits during pipe-ripping operations and all else necessary as required to complete the work including but not limited to constructing temporary work platform and temporary weather protection.

E. Price to Cover

The unit price bid for the various construction field support items shall include the cost of all labor, materials, equipment, insurance, and incidentals necessary to provide construction field support, which may include but is not limited to working over, under, adjacent to, around, in between and in close proximity of surface and subsurface utility facilities and exposing, supporting, protecting and maintaining the integrity of the facilities without disruption of service to the general public, utility customers and in accordance with the Contract Documents at various locations approved by the Facility Operator in consultation with the Resident Engineer. The unit price shall also include openings and closings of plates, and cones, barrels, arrow-boards, etc. and installing, shifting, moving and relocating cones, barrels, arrow-boards, etc. as may be required in order to provide access to excavations and during specialty work being performed by others excluding work operations covered under JB402T. The unit price shall also include excavating by hand to expose existing structures. Any required removing, trucking, storing, and disposing of material shall be deemed included in the unit price bid. The unit price shall also include the cost of supporting and protecting all utilities encountered during the construction field support operation, as required except work operations covered under JB 402T. The unit price bid shall also include alternate methods for construction field support, which may include changes in equipment and special operations, and sequencing and the use of only all hand-held tools due to existing field conditions, including potential delays and extended performance. Any and all Contractor method changes and operation modifications employed for construction field support are deemed to be included in the price bid for this item. Work under this item may be paid in combination with other City, utility or facility accommodation Items bid under other contract items except where expressedly excluded from that item.

F. References

1. Sketches JB 100A, JB 100B

JB 603T - FURNISH AND INSTALL TELECOMMUNICATIONS CONDUITS

A. Description

Under this Section, the Contractor shall provide all labor, materials, equipment, insurance, and incidentals required to procure and install conduit for the purpose of installing the facility operator's utilities. Conduit runs shall be as shown on the contract drawings or as specified by the facility operator in consultation with the Resident Engineer.

B. Materials

Conduit shall consist of:
PVC – 2" and 4" diameter or 1 ¼" Quad, Type "C" as supplied by American Pipe and Plastics or approved equal
Steel - 4" diameter, ASTM A53, Schedule 40 or approved equal
All conduit including sleeves, couplings, bends, pulling lines, etc. shall be supplied by the Contractor and approved by the facility operator in consultation with the resident Engineer.
The Contractor shall supply all material (Mortar, Brick, etc.) to make repairs to opening(s) as approved by the facility operator in consultation with the Resident Engineer.

C. Method of Construction

The Contractor shall install the specified conduit(s) then rod, mandrel and wire (install pulling line) the new conduits. When conduit pipes are to be connected to existing underground ducts, manholes, or boxes, the Contractor, using hand-held tools only, shall cut existing conduit, to pick-up existing underground conduits with new conduits, make openings into manholes or boxes, install/connect the conduit, and make repairs to seal the openings in the structure.

Steel pipe shall be used for shallow cover and crossing or paralleling steam mains as directed by the facility operator in consultation with the Resident Engineer.

When the facility operator required a combination of conduit types and materials the facility operator will define the configuration of the conduit system and the location of each type within the conduit bank. All conduit shall be spaced 1 ½" both vertically and horizontally from the adjacent conduit(s). All conduits shall be encased in lean concrete (f'c = 1200 to 1500 psi maximum) which shall extend 2" beyond each face of the conduit formation, above and each side of the conduit formation.

If due to subsurface conditions, the cover is less than 20" from finished grade, the duct shall be protected with steel plates furnished by the facility operator(s) and measured for payment under Item JB 403.

The work shall be performed in accordance with the contract plans, specifications, and at the directions of the facility operator in consultation with the Resident Engineer.

D. Methods of Measurement

The quantity to be measured for payment shall be the number of linear feet (LF) of conduit trench for which conduit was furnished and installed:

1. 603T.1 - Install 1 ea. 2", 4" or 1 ¼" Quad" Conduit (PVC or Steel) in any combination
2. 603T.2 - Install 2 ea. 2", 4" or 1 ¼" Quad Conduits (PVC or Steel) in any combination
3. 603T.3 - Install 4 ea. 4" or 1 ¼" Quad Conduits (PVC or Steel) in any combination
4. 603T.4 - Install 6 ea. 4" or 1 ¼" Quad Conduits (PVC or Steel) in any combination
5. 603T.5 - Install 8 ea. 4" or 1 ¼" Quad Conduits (PVC or Steel) in any combination
6. 603T.6 - Install 12 ea. 4" or 1 ¼" Quad Conduits (PVC or Steel) in any combination
7. 603T.7 - Install 15 ea. 4" or 1 ¼" Quad Conduits (PVC or Steel) in any combination
8. 603T.8 - Install 24 ea. 4" or 1 ¼" Quad Conduits (PVC or Steel) in any combination
9. 603T.9 - Install 30 ea. 4" or 1 ¼" Quad Conduits (PVC or Steel) in any combination

A Quad, consisting of four 1 ¼" conduits shall be supplied as one unit. For purposes of measurement and payment each quad unit of four 1 ¼" ducts shall be counted as one duct.

For any equivalent combination not fitting the above categories payment shall be based on the next higher category.

E. Price to Cover

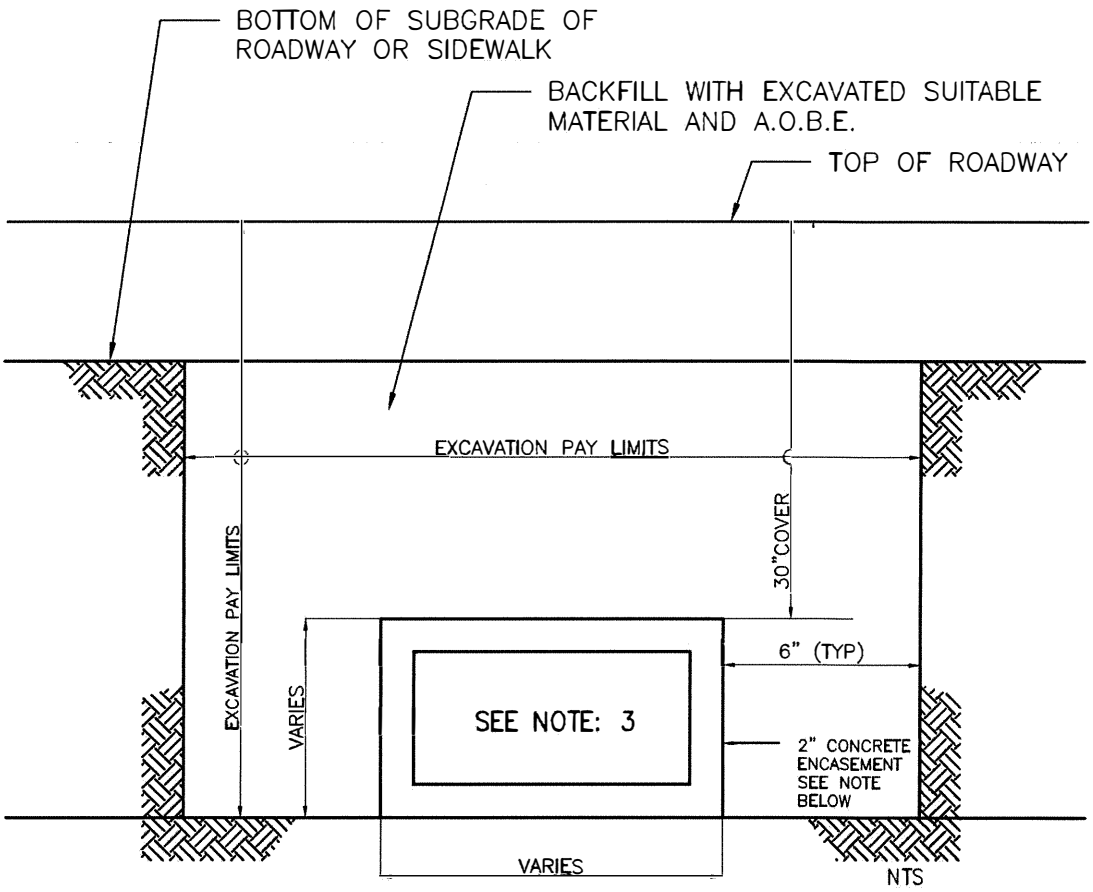
The unit price per linear foot of Conduit trench shall cover the cost of all labor, materials, equipment, insurance and incidentals necessary to furnish, install, rod, rope, and perform any other associated work required to install the conduit completely in place. Where conduits are to be connected to ducts, manholes or boxes, the cost of cutting and/or breaking into the ducts, manholes or boxes, installing and sealing the conduit, including duct plugs; and making repairs to the openings in the structure shall be considered as included in the unit price bid for the installation of the conduit. All acceptance testing, including passing a mandrill with a diameter of 1/8" less than the inside diameter of the duct through the entire length of the duct, as required by the facility operator shall be considered as included in the unit price.

Payment for trench excavation shall be paid under Item JB 405.

Steel protection plates shall be paid for under Item JB 403T

F. References

1. Sketch JB 603T
2. Item JB 405
3. American Pipe and Plastics, P.O. Box 577, Binghamton, N.Y. 13902



TYPICAL CONDUIT EXCAVATION AND BACKFILL

NOTES:

QUEENS, BROOKLYN & STATEN ISLAND

1– CONCRETE ENCASE REQUIRED IF TOP OF DUCTS IS 20" OR LESS FROM SURFACE AND ALL BENDS, SWEEPS AND CHANGE OF GRADE. FOR COVER LESS THAN 20", 3/8" STEEL (A36M) COVER PLATES IN ADDITION TO THE CONCRETE ENCASEMENT SHALL BE PROVIDED.

MANHATTAN & BRONX,

2– FOR COVER LESS THAN 20", 1/4" STEEL (A36M) COVER COVER PLATES IN ADDITION TO THE CONCRETE ENCASEMENT SHALL BE PROVIDED.

3– CONDUIT CONFIGURATION TO BE DETERMINED BY ECS/VERIZON REPRESENTATIVE.

J.B. SKETCH		
TRENCH EXCAVATION FOR CONDUIT		
09/13/2017	CONTRACT NO.	SKETCH NO. JB 603T

JB 636E - ADJUSTMENT OF UTILITY HARDWARE

Under this section the Contractor shall adjust existing utility street hardware including vault grates, valve boxes, etc., to the proposed grade by either building up or lowering the installation and resetting the castings, as and where directed by the facility operator.

A. Description

Building up or lowering the installation and resetting the castings shall consist of removing the existing frame and cover, building up or decreasing the existing installation, replacing the frame and/or cover if damaged, as determined by the facility operator, with a new frame and/or cover furnished by the facility operator, and setting the frame and cover to the new elevation.

B. Materials

Materials used shall comply with the Standards and specifications of the facility operator having jurisdiction over the installations. Where high-early strength concrete is required by the Resident Engineer to be placed adjacent to utility installations then the requirement for mortar shall be quick setting mortar capable of obtaining a minimum compressive strength of 1,500 psi in two (2) hours, and the requirement for concrete shall be high-early strength complying with current N.Y. State Department of Transportation, Standard Specifications for Class F concrete.

When castings and/or covers are deemed inadequate at a location as determined by the facility operator, the facility operators shall furnish new castings and/or covers to the Contractor for installation. The Contractor is required to inform the utility operator in advance of the need for the castings. Materials supplied by the facility operator shall be delivered to the contractor's designated storage area.

C. Methods of Construction

The Contractor shall breakout and dispose of sidewalk, curb, pavement and/or pavement base around existing casting, excavate as required to remove casting and install existing or replacement casting, remove casting, protect opening, reinstall existing casting or install new casting to the proposed grades, backfill, grade and compact fill around casting, install base concrete and or sidewalk pavement and curb, tack coat around frame, install and remove temporary pavement around casting where directed by the facility operator; and install and compact asphalt binder and wearing course or other permanent pavement around casting and perform all work in accordance with the contract plans and the specifications.

Setting or resetting the castings shall be done with bricks plus mortar and/or by raising or lowering adjustable castings according to the standards of the utility owner having jurisdiction over the installation. Work shall be done in a workmanlike manner. Any damage resulting from the Contractor's operations to the existing installation which is to remain shall be satisfactorily corrected at the Contractor's own expense, as directed by the facility operator. Castings, which are deemed unacceptable for resetting, shall become the property of the Contractor and shall be removed and disposed of by him away from the site.

No traffic shall be allowed on adjusted utility hardware until permitted by the facility operator.

D. Method of Measurement

The quantity to be measured for payment shall be the number of utility hardware units (EA) in each size group actually adjusted as specified under each item. The size of each utility hardware unit, measured in width, shall be defined as either, the diameter of the exposed edge of the casting, or the exposed edge of the longest side of rectangular frames as indicated in sketch JB 636.

JB 636 EA - Adjustment of Utility Hardware (Under 7" Width)

JB 636 EB - Adjustment of Utility Hardware (7" to under 14" Width)

JB 636 EC - Adjustment of Utility Hardware (14" to under 30" Width)

JB 636 ED - Adjustment of Utility Hardware (30" to under 34" Width)

JB 636 EE – Adjustment of Utility Hardware (34" to under 41" Width)

JB 636 EG - Adjustment of Utility Hardware (41" to under 75" Width)

JB 636 EH - Adjustment of Utility Hardware (75" to under 125" Width)

JB 636 EI - Adjustment of Utility Hardware (125" to under 170" Width)

E. Price to Cover

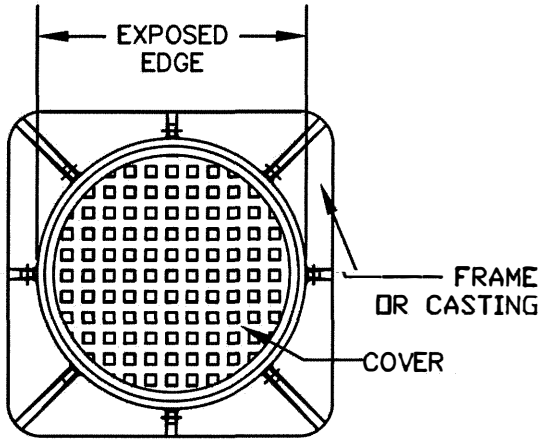
The price for re-grading utility hardware shall be the unit price per each (EA.) and shall cover the cost of furnishing all labor, materials, plant, equipment, and incidentals required to remove existing frames and covers; build up the existing installations with brick and mortar, or lower the existing installations by removing bricks and mortar; replace damaged frames and/or covers with frames and/or covers furnished by others; break out pavement and/or pavement base; protect existing opening and installation; set the frames and covers to new elevations; grade and compact fill; install base concrete; tack coat frame; install, remove, and dispose temporary pavement; install and compact asphalt binder and wearing course or other permanent pavement; repair minor structural damage to existing installations prior to resetting frames; unloading of furnished castings at the Contractor's yard and transporting castings from the Contractor's yard to the job site as required; and complete the work in accordance with the plans, the specifications, and the directions of the facility operator.

F. References

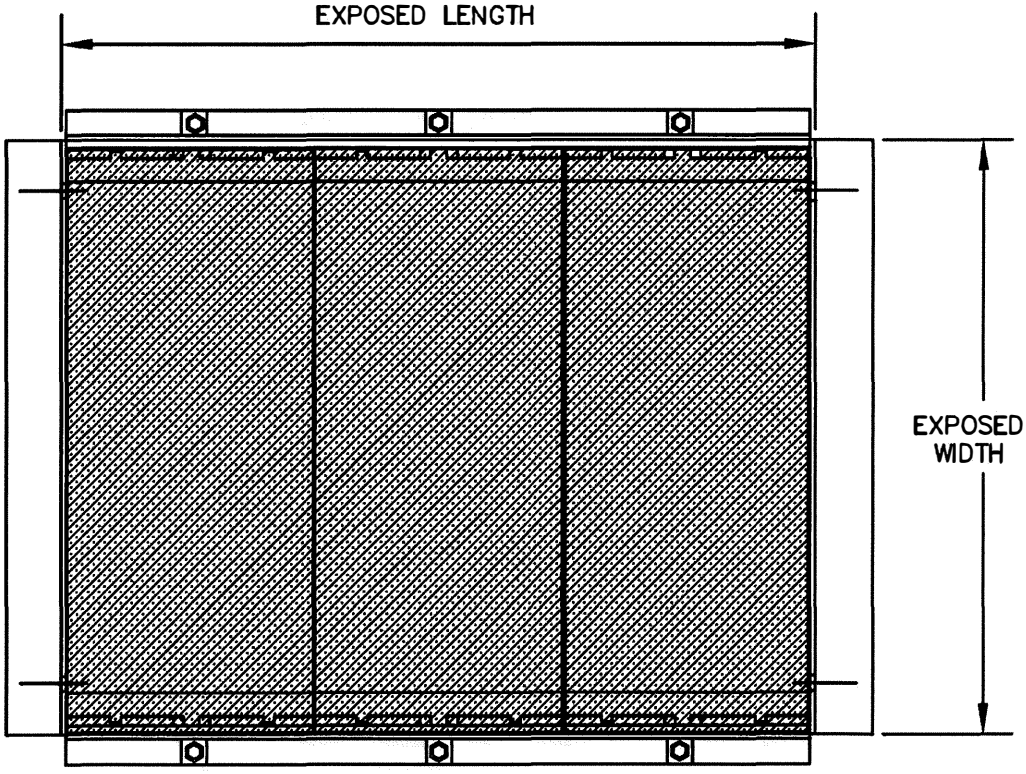
1. NYS DOT Standard Specs for Class F Concrete
2. Con Edison Specifications, latest revisions. EO-10321-B, latest revision – Chimneys, collars & grading blocks for manholes & vaults construction and installation
3. Sketch JB 636E

PROJECT ID:

ROUND COVERS



RECTANGULAR COVERS/FRAMES



PLAN VIEW

N.T.S.

ADJUSTMENT OF
UTILITY HARDWARE

LAST REVISION	SKETCH NO.
6/30/2015	JB 636E

JB 636 M - MODIFICATION OF WORK METHODS TO ACCOMMODATE UTILITY HARDWARE DURING PAVEMENT MILLING AND RESURFACING OPERATIONS

A. Description

Under this section, the Contractor shall provide all labor, materials, equipment, insurance, and incidentals required to maintain, protect, and accommodate the integrity of utility hardware during pavement milling and resurfacing operations. Hardware includes castings, frames, and covers on utility structures, valve box cover castings, concrete collars around steam castings, and all other hardware protecting utility facilities.

B. Materials – N/A

C. Method of Construction

Removal of existing pavement around utility hardware shall be performed by the Contractor with extreme caution by utilizing appropriate methods of operation, by employing specialized construction equipment, and by special operations and sequencing.

The Contractor shall not mill existing pavement within 12" of the perimeter of utility hardware. Removal of pavement within 12" of the perimeter of utility hardware shall be by cutting with pavement breakers or other methods as proposed by the Contractor. All methods shall be presented to the facility operator and the Resident Engineer by the Contractor prior to the start of construction and shall be approved by the facility operator in consultation with the Resident Engineer.

During removal of existing pavement and for the duration of project, the Contractor shall protect utility hardware from damage by the Contractor's operations and traffic. Contractor shall also provide all necessary protection to pedestrians to prevent injury to pedestrians when crossing utility hardware during the project. Utility street hardware damaged by the Contractor or others during the project shall be replaced by the Contractor at Contractor's expense.

The Contractor shall not place any paving materials over utility hardware during the project.

D. Method of Measurement

The quantity to be measured for payment shall be the number of utility hardware units (ea) in each size group actually adjusted as specified under each item. The size of each hardware unit, measured in width, shall be defined as the diameter of circular covers, the major axis of elliptical covers, or the larger length or width of rectangular covers.

1. Item 636 MA – Modification of Work Methods to Accommodate Utility Hardware (Under 7" Width)
2. Item 636 MB – Modification of Work Methods to Accommodate Utility Hardware (7" to under 14" Width)

3. Item 636 MC – Modification of Work Methods to Accommodate Utility Hardware (14" to under 30" Width)
4. Item 636 MD – Modification of Work Methods to Accommodate Utility Hardware (30" to under 34" Width)
5. Item 636 ME – Modification of Work Methods to Accommodate Utility Hardware (34" to under 41" Width)
6. Item 636 MG – Modification of Work Methods to Accommodate Utility Hardware (41" to under 75" Width)
7. Item 636 MH – Modification of Work Methods to Accommodate Utility Hardware (75" to under 125" Width)
8. Item 636 MI – Modification of Work Methods to Accommodate Utility Hardware (125" to under 170" Width)
9. Item 636 SMB – Modification of Work Methods to Accommodate Utility Steam Hardware (Under and including 8" Width)
10. Item 636 SMC – Modification of Work Methods to Accommodate Utility Steam Hardware (Above 8" to 34" Width)

A. Price to Cover

The price to modify work methods to accommodate Utility Hardware during pavement milling and resurfacing operations shall include the cost of all incremental labor, materials, time, equipment, insurance and incidentals required for removal and disposal of existing pavement, installation and compaction of base and wearing course materials, installation and compaction and removal of temporary asphalt concrete mixture, tack coating; in accordance with the plans, the specifications and the directions of the facility operator in consultation with the Resident Engineer. The price to cover shall further include the cost of maintaining, protecting, and accommodating the integrity of utility street hardware during the project and during the performance of milling and resurfacing and the incremental additional work and effort made necessary to protect pedestrians from injury when crossing utility hardware during the project. The price to cover shall further include additional areas of modification of work methods beyond 12" of the perimeter of the utility street hardware due to the milling equipment and the location of other utility hardware, city street hardware, utility poles, street lights, traffic signals, curbs, sidewalks, medians, guide rails, pavement stops, cobblestones, and pavers. The price to cover for Items 636 SMB and 636 SMC shall also include modification of work methods due to existing concrete collars surrounding these castings.

Payment for all work herein specified shall be made on a one-time basis only; no payment for work herein specified shall be made for the same area more than one time. Adjustment to utility hardware shall be paid for under the appropriate JB 636E item.

F. References

1. JB 636E

JB 638NT – FIELD CONSTRUCTED TELECOMMUNICATIONS MANHOLE STRUCTURES

Under this item the Contractor shall perform the complete installation of field constructed utility structures approved by the facility operator in consultation with the Resident Engineer. The utility structure shall be field constructed and installed in compliance with standard utility specifications and/or methods approved by the facility operator in consultation with the Resident Engineer.

A. Description

Installation of field constructed utility structure shall comply with utility standard specifications and/or as directed by the facility operator in consultation with the Resident Engineer and shall include:

- Service Boxes (various sizes)
- Manholes (various sizes)

Where approved by the facility operator, telephone structures may as an alternate be constructed of precast reinforced concrete.

B. Materials

The facility operator will furnish cable racks, pulling-in irons, sump castings, hardware, manhole steps/ladder supports and cast iron frames and covers. All other materials required for a complete manhole installation including concrete, reinforcing steel and structural steel shall be supplied by the Contractor and shall comply with the standards of the facility operator.

The Contractor shall notify the facility operator a minimum of 30 days prior to manhole construction for scheduling materials to be furnished by the utility company. The Contractor shall pick up said materials at the facility operator's yard.

All concrete shall have a minimum compressive strength of 4,000 psi at 28 days.

Reinforcing steel shall be deformed bars conforming to ASTM, Grade 60.

Structural steel shall conform to the requirements of ASTM A-36. Bolts shall conform with the requirements of ASTM A-325.

The Contractor shall supply all necessary materials (mortar, concrete, brick, etc.) for sealing duct entrance windows in manholes and for constructing chimneys and bricking up castings to grade.

C. Method of Construction

All work shall comply with the utility specifications, plans, and standards of the facility operator.

Refer to specification JB 406 for excavation and sheeting requirements associated with telephone manhole construction. Where replacement manholes are indicated on the plans, the demolition

and removal of the existing manhole structure and the protection of existing cables and splices will be paid separately under JB 638R.

The Contractor shall perform the necessary field construction of the floor, walls, and roof of the utility structure as shown on the Plans and as directed by the facility operator in consultation with the Resident Engineer. No traffic shall be allowed on the structure until permitted by the facility operator in consultation with the Resident Engineer.

Field conditions may require the contractor to modify the design of the manhole structure, as directed by the facility operator in consultation with the Resident Engineer.

Refer to specification JB 636E for guidelines relating to the installation of new frames and covers.

All structural steel roof beams shall be ground free of burrs and painted with one shop coat and two field coats of finish paint. The Contractor shall make provisions for and incorporate into the manhole all required materials as shown on the Plans, standard utility details or as directed by the facility operator in consultation with the Resident Engineer.

The Contractor shall provide duct entry windows in the new manhole as shown on the Plans and as directed by the facility operator. All windows shall be properly sealed around new ducts per utility company requirements.

All cable racks and wall brackets shall be supported on walls with ½" dia. X 2-½" long galvanized steel machine bolts using ½" concrete inserts or expansion bolts. Vertical spacing of inserts shall not exceed 18" o.c. (typ).

The Contractor shall confirm placement of concrete inserts for cable rack supports, pulling-in irons, and other embedments shown on the Plans with the facility operator, in consultation with the Resident Engineer, prior to manhole construction.

All work shall be done in a workmanlike manner and any damage resulting from the Contractor's operations shall be satisfactorily corrected as directed by the facility operator in consultation with the Resident Engineer and at the Contractor's expense. The contractor shall perform the installation of the utility structure while maintaining, supporting, and protecting and accommodating the integrity of all utility facilities (without disruption of service) located within the areas of the excavation and the field constructed structure.

This item shall also apply when partially or totally rebuilding or modifying an existing utility structure.

The Contractor is advised that in lieu of poured-in-place structures the substitution of Precast Reinforced Concrete Structures that comply with Utility Specifications, will be permitted only when approved by the facility operator in consultation with the Resident Engineer, along with the following provisions:

1. Precast telephone manholes shall be constructed to the interior manhole dimensions and details shown on the Plans.

2. The Contractor shall submit shop drawings and design calculations for each precast manhole structure for review and approval by the facility operator and the Resident Engineer prior to fabrication. Shop drawings shall show the overall structure dimensions, roof openings, window sizes and locations, sump locations, reinforcing steel and details, construction joint types and locations including sealant material proposed. The inside face of all windows (4 sides) shall be beveled and provisions made for all inserts and hardware for a complete manhole installation, including cable pulling iron embedments and cable rack insert embedments in accordance with the standards and requirements of the facility operator.
3. Precast manhole design criteria shall be as follows:
    - Concrete Minimum Compressive Strength: 4,000 psi or greater at 28 days.
    - Steel Reinforcement: ASTM A-615, Grade 60.
    - Design Loading: AASHTO HS20-44
    - Shop drawings and calculations shall state design methodology used and all design assumptions including soil pressures and ground water levels used in the design.

4. A 9-inch thick compacted stone ballast leveling pad shall be provided as a foundation for all precast manholes.

D. Method of Measurement

The quantity to be measured for payment shall be the number of cubic yards (CY) of concrete, cast on site or pre-cast, as specified, concrete, brick, and mortar in place to the nearest hundredth of a cubic yard. No deductions will be made for the spaces occupied by steel reinforcement.

E. Price to Cover

The unit price under this item shall be a unit price per cubic yard (CY) of concrete, cast on site or pre-cast, as specified, concrete, brick, and mortar placed in the field constructed utility structure. The unit price shall cover the cost of all labor, materials, plant, equipment, insurance and incidentals required to field construct partially or totally, rebuild or modify, a utility structure. The unit price shall also include all formwork installation and removal, installation of concrete, bricks, mortar, steel reinforcement, structural steel beams, furnish and install pre-cast concrete, chimney, and installation of interior and exterior hardware, including frames and covers. The Contractor shall also install pipes, conduits, sumps, drains, sleeves, related steel or cast iron materials or equipment through the structures as shown on the drawings. Upon removal of forms, the Contractor shall remove debris and face off the entire interior of the structure. The unit price includes necessary realignment of existing ducts into the new structure up to five feet from the outside face of the new structure; any additional duct realignment required shall be paid under a separate JB item. The unit price shall further include the cost of maintaining, supporting, protecting and accommodating the integrity of all utility facilities (without disruption of service) during the work within the areas of excavation and the field constructed structure, and the furnishing of samples, as required. All work shall comply with the plans, specifications, standards, and directions of the facility operator in consultation with the Resident Engineer.

All pavement breaking, pavement removal and disposal, excavation, haul away, and disposal, furnish and install backfill, temporary pavement, sheeting, bracing, and all necessary incidentals shall be paid under item JB 406, only if required. All required break out and disposal of all types of conduits/duct banks in new structure area, including maintenance and support of cable shall be included in JB 638R. Where precast reinforced concrete manholes are used in lieu of poured in place manholes, the cost for furnishing, delivery and installation of the precast reinforced structures, additional excavation associated with the widening and deepening of trench due to increased width of precast structures and due to the placement of a stone ballast leveling pad; stone ballast; connections; and all work incidental thereto all in accordance with the Plans, Specification and Standards, shall be deemed included under this item. No additional or separate payments will be made for any work associated with the installation of precast reinforced structures.

The cost of providing an anti-freeze additive in concrete, when required, shall be paid for under Item 9.04 HW.

F. References

1. JB 406
2. JB 636E
3. JB 638R
4. Standard Utility Specifications and Drawings

JB 638RT – BREAK OUT AND REMOVE TELEPHONE/COMMUNICATIONS UTILITY STRUCTURE CONTAINING ACTIVE FACILITIES

A. Description

Under this section the Contractor shall provide all labor, materials, equipment, insurance and incidentals necessary to partially or totally break out and remove existing utility structures using methods approved by the facility operator. Breaking out and removing existing utility structures shall be performed while maintaining and protecting all subsurface facilities, at locations approved by the Facility Operator. The Contractor will encounter various underground facilities, located both inside and outside the utility structure, while partially or totally breaking out and removing existing utility structures and will be required to excavate and perform work over, under, adjacent to, around, in between and in close proximity of various congested configurations of multiple facilities, conduits, pipes and cables.

All work required to partially or totally break out and remove existing utility structures shall comply with standard utility specifications and/or as directed by the facility operator and shall include but not be limited to:

- Service Boxes (various sizes)
- Manholes (various sizes)
- Vaults (various sizes)
- Valve Boxes (various sizes)
- Concrete encased conduits containing cables

B. Materials

All materials used shall be supplied by the Contractor and comply with the standards of the facility operator.

C. Method of Construction

The Contractor shall perform the necessary breaking out and removal of the existing utility structure while maintaining and protecting all subsurface facilities. The Contractor will encounter various underground facilities located both inside and outside the utility structure, while partially or totally breaking out and removing existing utility structures and will be required to excavate and perform work over, under, adjacent to, around, in between and in close proximity of various congested configurations of multiple facilities, conduits, pipes and cables, as directed by the facility operator. All work shall be done in a workmanlike manner and any damage resulting from the Contractor's operations shall be satisfactorily corrected as directed by the facility operator and at the Contractor's expense.

This item shall also apply when partially or totally breaking out and removing an existing utility structure.

The rebuilding of the utility structure is covered under JB 638NT.

D. Method of Measurement

The quantity to be measured for payment shall be the number of cubic yards (CY) of concrete, reinforced concrete, brick, and mortar of the existing utility structure broken out, removed and disposed to the nearest hundredth of a cubic yard. No deductions will be made for the spaces occupied by steel reinforcement.

E. Price to Cover

The unit price bid under this item shall be a unit price per cubic yard (CY) of concrete, reinforced concrete, brick, and mortar of the existing utility structure broken out, removed and disposed. The unit price shall also cover the cost of all labor, materials, plant, equipment, insurance, and incidentals required to partially or totally break out, remove and dispose of existing utility structure. The unit price shall also include demolition of the existing utility structure, haul away and disposal of demolished materials, formwork, concrete, bricks, mortar, steel reinforcement, structural steel beams, interior hardware, exterior hardware, including frames and covers. The unit price shall further include the cost of maintaining, supporting, protecting and accommodating the integrity of all utility facilities (without disruption of service) during the work within the areas of excavation and the existing structure. All work shall comply with the plans, specifications and standards, provided by and at the directions of the facility operator.

The unit price shall include providing access to the facility operator tenants to verify and test cables before, during and after breaking out and removal of the utility and after conduit removal by the Contractor. The unit price shall include, but not limited to, opening and closing of fences; removal and replacement of temporary timber curb and opening and closing of traffic plates. Access to adjacent manholes impacted by the run is included in this item. JB 450 shall not be used in conjunction with JB 638RT as JB 638RT covers access to the work site at all times.

All pavement breaking, pavement removal and disposal, excavation, haul away, and disposal, furnish and install backfill, temporary pavement, sheeting, bracing, and all necessary incidentals shall be paid under item JB 406, only if required.

F. References

1. JB 406
2. Standard Utility Specifications and Drawings

JB 798 - MODIFICATION OF NON CONCRETE YOKE TROLLEY STRUCTURES REMOVAL WHEN CROSSING UTILITY FACILITES

A. Description

This JB item shall only be applied to trolley structure systems that do not contain concrete yoke foundations. This JB item shall only be used for trolley systems that have rails and wood ties only.

Under this section, the Contractor shall provide all incremental labor, equipment, insurance and incidentals required to maintain and protect and accommodate the integrity of utility facilities that include but are not limited to:

1. Conduits;
2. Conductors;
3. Concrete encased Conduit banks;
4. Steel Pipes; Steam Facilities;
5. Oil-o-static Facilities;
6. Non-cost Sharing Gas Facilities;
7. Steam Facilities;

of various sizes and configurations crossing trolley structures at various angles located within a zone of protection, as indicated on Sketch JB 798, during the removal of trolley structures and subsequent backfilling operations. Utility facilities that run parallel to trolley structures are not included within this item and will be paid for under the appropriate JB item. The work shall be performed in accordance with the contract plans, the specifications, and as encountered during construction and directed by the facility operator.

B. Materials – N/A

C. Method of Construction

The Contractor shall maintain, protect, and accommodate the integrity of all utility facilities of various sizes and configurations crossing trolley structures within a zone of protection as indicated in Sketch JB 798, during removal of trolley structures and subsequent backfilling and compaction operations under other contract item(s). The facility operator shall identify the locations of all utilities within the contract area as required by New York State Industrial Code Rule 753. As provided by the Rule, the Contractor shall use hand excavation methods (pick and shovel or hand held power tools) directly below the pavement base to expose the utility and ascertain the numerical relationships and/or dimensions of these utilities with respect to the proposed excavation. Contractor shall perform test pits at locations determined by the facility operator to expose utility as specified in JB 400. Upon exposing the affected utilities sufficiently, and at the sole discretion of the facility operator to determine relationships and/or dimensions, the Contractor shall be permitted to proceed with care to remove existing trolley structure within the zone of protection whose limit shall be defined as a distance of 24 inches from the outside face of each utility crossing.

D. Method of Measurement

The quantity to be measured for payment shall be the number of linear feet of modified trolley structure removal within the zone of protection as indicated on JB Sketch 798, measured along the centerline of trench. The trench is defined as one track set containing two rails. The zone of protection shall be defined, for the purpose of this agreement, as the boundary/area designated on the plans or a boundary/area 24 inches to either side of each of the designated facilities, based upon available records and/or information obtained from prior or new test pits, or any combination thereof. Where overlapping of the zones occurs due to multiple facilities, the boundary/area shall be modified to one zone measured from the outside limits. The contract item specified under this section shall not be measured for payment in conjunction with other types of utility items. Modifications to work methods required in areas between zones of protection for multiple utilities or JB facilities shall not be measured for payment and are included in the price bid for this item.

E. Price to Cover

The unit price per linear foot shall include the incremental cost for all labor, equipment, insurance and incidentals required to maintain and protect and accommodate the integrity of utility facilities during the removal of trolley structures (including rails, timber ties, trolley conduits and main conduit), and backfilling and compacting within a zoned area designated for protection of utilities by the facility operator.

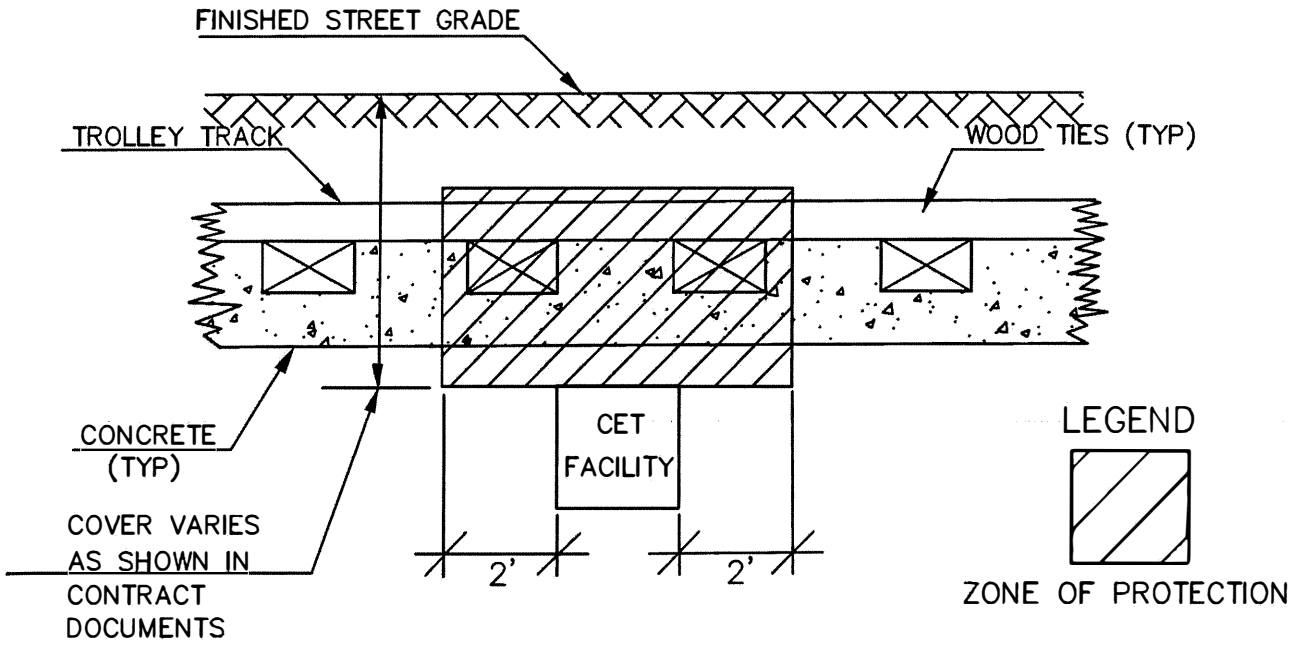
The price shall include any additional cutting, removing and disposing of roadway materials; hand or machine excavation; trucking and disposing of excavated materials, installation and removal of sheeting; and furnishing, installing and compacting backfill that may be required to support, protect, maintain and accommodate the integrity of utility facilities. The price shall also include means to ascertain the numerical relationship between utility and the trolley structure and the incremental cost for providing all vehicular and pedestrian traffic maintenance necessary to perform the work.

The Contractor shall be responsible for any and all damages resulting from and/or due to trolley demolition operations that are not performed in accordance with the specifications.

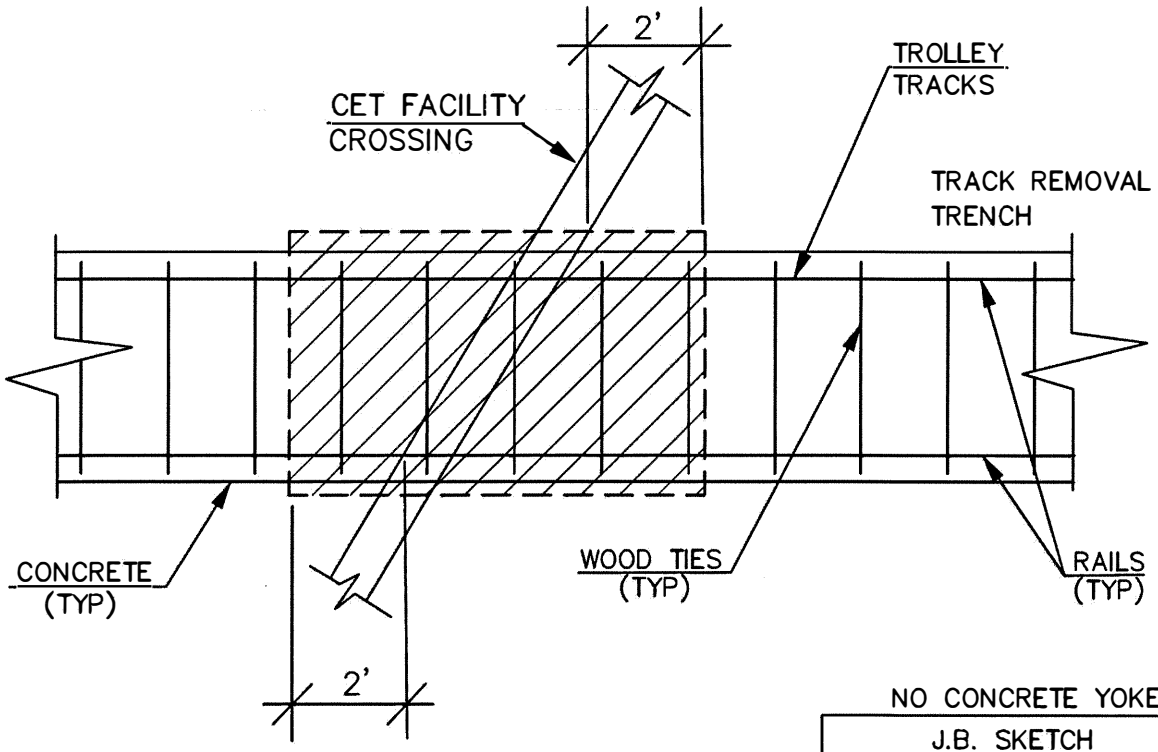
When this work is performed within a mass excavation area, a credit will be taken for the removed trolley structure.

F. References

1. NYS Industrial Code Rule 753
2. Sketch JB 798



SECTION OF CET FACILITIES CROSSING TROLLEY TRACKS



PLAN OF CET FACILITIES CROSSING TROLLEY TRACKS

NO CONCRETE YOKE

J.B. SKETCH

CET ACCOMODATION SECTIONS CROSSING TROLLEY RAILROAD STRUCTURES

REVISIONS	CONTRACT NO.	SKETCH NO.
09/13/2017		JB 798

JB 799 - MODIFICATION OF NON CONCRETE TROLLEY STRUCTURES REMOVAL PARALLEL TO UTILITY FACILITIES

A. Description

This JB item shall only be applied to trolley structure systems that do not contain concrete yoke foundations. This JB item shall only be used for trolley systems that have rails and wood ties only.

Under this section, the Contractor shall provide all incremental labor, equipment, insurance and incidentals required to maintain, protect, support and accommodate the integrity of utility facilities that include but are not limited to:

1. Conduits;
2. Conductors;
3. Concrete encased Conduit banks;
4. Steel Pipes; Steam Facilities;
5. Oil-o-static Facilities; and
6. Non-cost Sharing Gas Facilities;
7. Steam Facilities.

of various sizes and configurations paralleling or encroaching trolley structures located within a zone of protection, as indicated on the Plans or as directed by the field representative, during all trolley structure removal operations and subsequent backfilling operations. Utility facilities which cross over, under and between the trolley structures are not included within this item and will be paid for under the appropriate JB item. The work shall be performed in accordance with the contract plans, the specifications, and as encountered during construction and directed by the facility operator(s).

B. Materials – N/A

C. Method of Construction

The Contractor shall maintain, protect, support and accommodate the integrity of all utility facilities of various sizes and configurations paralleling or encroaching trolley structures within a zone of protection as indicated on the Plans or as directed by the field representative, during removal of trolley structures and subsequent backfilling and compaction operations under other contract item(s). The facility operator(s) shall identify the locations of all utilities within the contract area as required by New York State Industrial Code Rule 753. As provided by the Rule, the Contractor shall use hand excavation methods (pick and shovel or hand held power tools) directly below the pavement base to expose the utility and ascertain the numerical relationships and/or dimensions of these utilities with respect to the proposed excavation. Contractor shall perform test pits at locations determined by the facility operator to expose utility as specified in JB 400. Upon exposing the affected utilities sufficiently, and at the sole discretion of the facility operator(s) to determine relationships and/or dimensions, the Contractor shall be permitted to proceed with care to remove existing trolley structure within the zone of protection whose limit shall be defined as a distance of 24 inches from the outside face of each utility to the edge of the trolley structure.

D. Method of Measurement

The quantity to be measured for payment shall be the number of linear feet of modified trolley structure removal within the zone of protection as indicated on the plans, measured along the centerline of trench. The trench is defined as one track set containing two rails. The contract item specified under this section shall not be measured for payment in conjunction with other types of utility items. Modifications to work methods required in areas between zones of protection for multiple utilities or JB facilities shall not be measured for payment and are included in the price bid for this item.

E. Price to Cover

The unit price per linear foot shall include the incremental cost for all labor, equipment, insurance and incidentals required to maintain, protect, support and accommodate the integrity of utility facilities paralleling or encroaching trolley structures during the removal of trolley structures (including rails, timber ties, trolley conduits, and main conduits), and backfilling and compacting within a zoned area designated for protection of utilities by the facility operator(s).

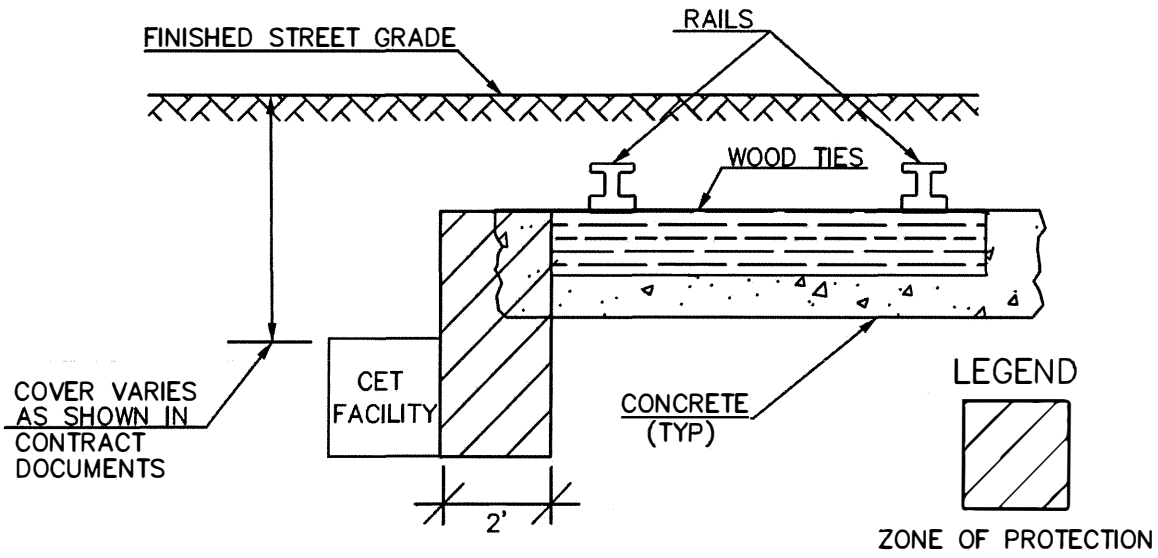
The unit price shall also include any additional cutting, removing and disposing of roadway materials; hand or machine excavation; trucking and disposing of excavated materials, installation and removal of sheeting; and furnishing, installing and compacting backfill that may be required to support, protect, maintain and accommodate the integrity of utility facilities. The price shall also include means to ascertain the numerical relationship between utility and the trolley structure, and the incremental cost for providing all vehicular and pedestrian traffic maintenance necessary to perform the work.

The Contractor shall be responsible for any and all damages resulting from and/or due to trolley demolition operations that are not performed in accordance with the specifications.

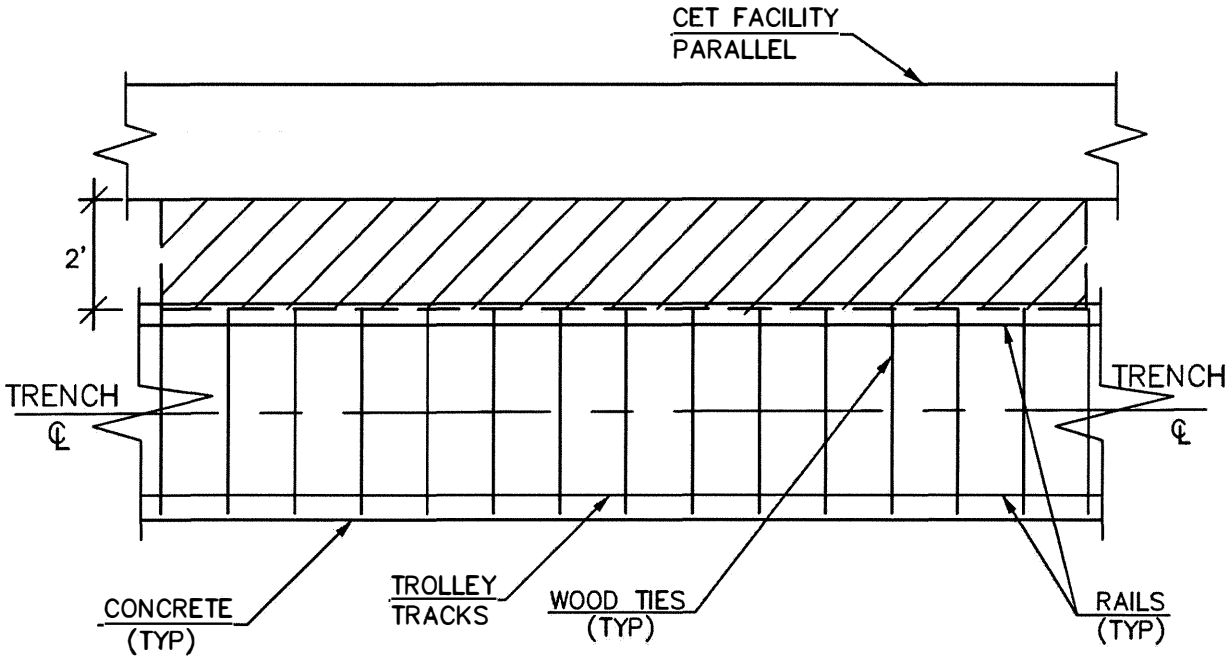
When this work is performed within a mass excavation area, a credit will be taken for the removed trolley structure.

F. References

1. NYS Industrial Code Rule 753
2. Sketch JB 799



SECTION OF CET FACILITIES PARALLELING TROLLEY TRACKS



NO CONCRETE YOKE

PLAN OF CET FACILITIES PARALLELING TROLLEY TRACKS

J.B. SKETCH	
CET ACCOMODATION FACILITIES PARALLEL TROLLEY RAILROAD STRUCTURES	
REVISIONS	
09/13/2017	CONTRACT NO. / SKETCH NO. JB 799

JB 800 - MODIFICATION OF CONCRETE YOKE TROLLEY STRUCTURES REMOVAL WHEN CROSSING UTILITY FACILITES

A. Description

This JB item shall only be applied to trolley structure systems that contain concrete yoke foundations. This JB item shall not be used for trolley systems that have rails and wood ties only.

Under this section, the Contractor shall provide all incremental labor, equipment, insurance and incidentals required to maintain and protect and accommodate the integrity of utility facilities that include but are not limited to:

1. Conduits
2. Conductors
3. Concrete encased conduit banks
4. Steel pipes
5. Oil-o-static facilities
6. Non-cost Sharing Gas Facilities and
7. Steam Facilities

of various sizes and configurations crossing trolley structures at various angles located within a zone of protection, as indicated on Sketch JB 800, during the removal of trolley structures and subsequent backfilling operations. Utility facilities that run parallel to trolley structures are not included within this item and will be paid for under the appropriate JB item. The work shall be performed in accordance with the contract plans, the specifications, and as encountered during construction and directed by the facility operator.

B. Materials – N/A

C. Method of Construction

The Contractor shall maintain, protect, and accommodate the integrity of all utility facilities of various sizes and configurations crossing trolley structures within a zone of protection as indicated in Sketch JB 800, during removal of trolley structures and subsequent backfilling and compaction operations under other contract item(s). The facility operator shall identify the locations of all utilities within the contract area as required by New York State Industrial Code Rule 753. As provided by the Rule, the Contractor shall use hand excavation methods (pick and shovel or hand held power tools) directly below the pavement base to expose the utility and ascertain the numerical relationships and/or dimensions of these utilities with respect to the proposed excavation. Contractor shall perform test pits to expose the utilities as specified under JB 400. Upon exposing the affected utilities sufficiently, and at the sole discretion of the facility operator to determine relationships and/or dimensions, the Contractor shall be permitted to proceed with hand held power tools to remove existing trolley structure within the zone of protection whose limit shall be defined as a perimeter located 24 inches from the outside face of each utility crossing.

D. Method of Measurement

The quantity to be measured for payment shall be the number of linear feet of modified trolley structure removal within the zone of protection as indicated on JB Sketch 800, measured along the centerline of trench. The trench is defined as one track set containing two rails. The zone of protection shall be defined, for the purpose of this agreement, as the boundary/area designated on the plans or a boundary/area 3 feet to either side of each of the designated facilities, based upon available records and/or information obtained from prior or new test pits, or any combination thereof. Where overlapping of the zones occurs due to multiple facilities, the boundary/area shall be modified to one zone measured from the outside limits. The contract item specified under this section shall not be measured for payment in conjunction with other types of utility items. Modifications to work methods required in areas between zones of protection for multiple utilities or JB facilities shall not be measured for payment and are included in the price bid for this item.

E. Price to Cover

The unit price per linear foot shall include the incremental cost for all labor, equipment, insurance and incidentals required to maintain and protect and accommodate the integrity of utility facilities during the removal of trolley structures (including rails, timber ties, yokes, trolley conduits, main conduit, rail and yoke foundations), and backfilling and compacting within a zoned area designated for protection of utilities by the facility operator.

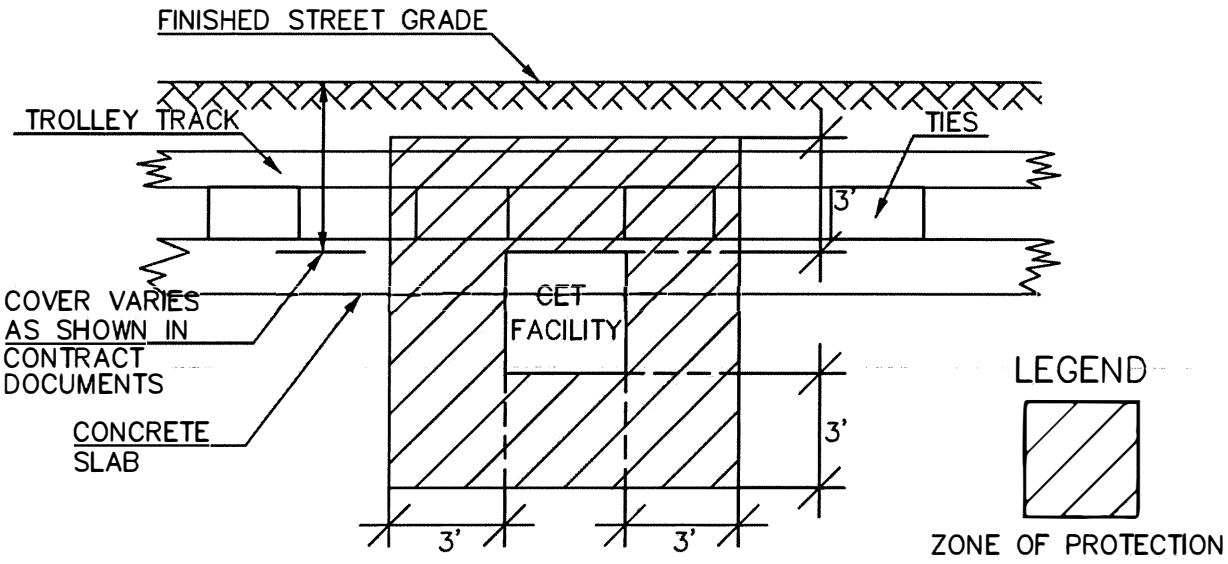
The unit price shall also include any additional cutting, removing and disposing of roadway materials; hand or machine excavation; trucking and disposing of excavated materials, installation and removal of sheeting; and furnishing, installing and compacting backfill that may be required to support, protect, maintain and accommodate the integrity of utility facilities. The unit price shall also include the incremental cost for providing all vehicular and pedestrian traffic maintenance necessary to perform the work.

The Contractor shall be responsible for any and all damages resulting from and/or due to trolley demolition operations that are not performed in accordance with the specifications.

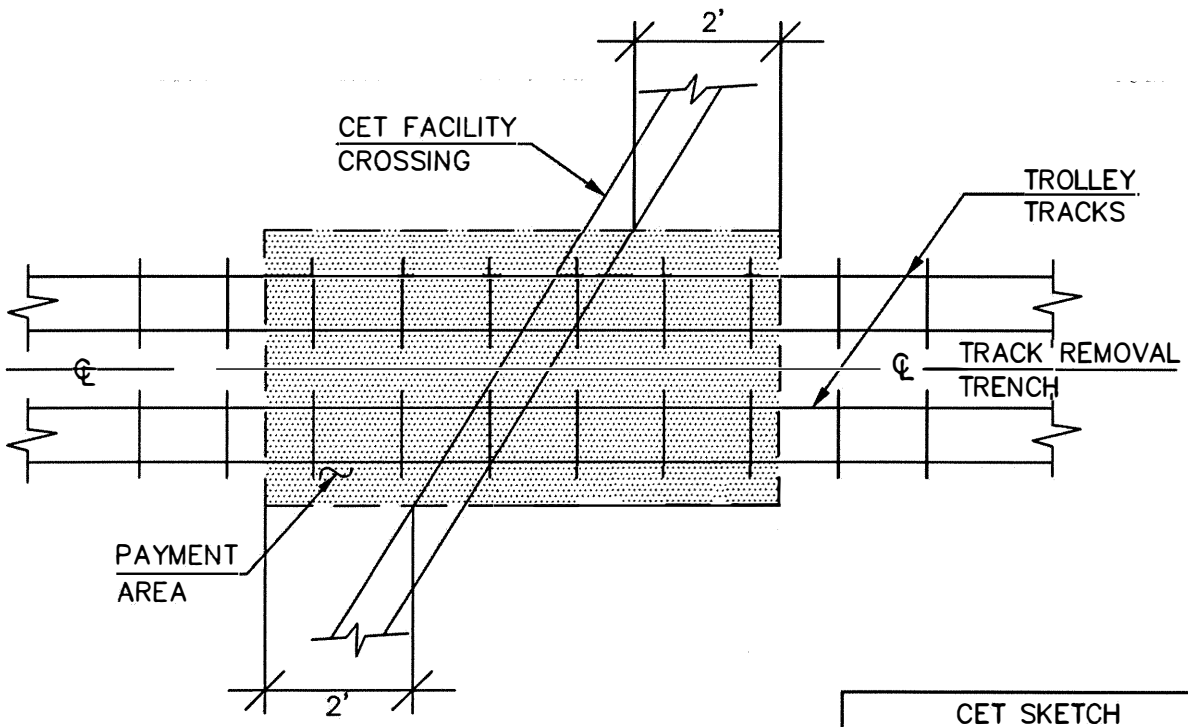
When this work is performed within a mass excavation area, a credit will be taken for the removed trolley structure.

F. References

1. NYS Industrial Code Rule 753
2. Sketch JB 800



SECTION OF CET FACILITIES CROSSING TROLLEY TRACKS



PLAN OF CET FACILITIES CROSSING TROLLEY TRACKS

CET SKETCH	
CET ACCOMODATION SECTIONS AT TROLLEY RAILROAD STRUCTURES	
REVISIONS	
09/13/2017	CONTRACT NO. / SKETCH NO. JB 800

JB 801 - MODIFICATION OF CONCRETE YOKE TROLLEY STRUCTURES REMOVAL PARALLEL TO UTILITY FACILITIES

A. Description

This JB item shall only be applied to trolley structure systems that contain concrete yoke foundations. This JB item shall not be used for trolley systems that have rails and wood ties only.

Under this section, the Contractor shall provide all incremental labor, equipment, insurance and incidentals required to maintain, protect, support and accommodate the integrity of utility facilities that include but are not limited to:

1. Conduits
2. Conductors
3. Concrete encased conduit banks
4. Steel pipes
5. Oil-o-static facilities
6. Non-cost sharing gas facilities and
7. Steam facilities

of various sizes and configurations paralleling or encroaching trolley structures located within a zone of protection, as indicated in sketch JB 801 or as directed by the field representative, during all trolley structure removal operations and subsequent backfilling operations. Utility facilities which cross over, under and between the trolley structures are not included within this item and will be paid for under the appropriate JB item. The work shall be performed in accordance with the contract plans, the specifications, and as encountered during construction and directed by the facility operator(s).

B. Materials – N/A

C. Method of Construction

The Contractor shall maintain, protect, support and accommodate the integrity of all utility facilities of various sizes and configurations paralleling or encroaching trolley structures within a zone of protection as indicated in sketch 801 or as directed by the field representative, during removal of trolley structures and subsequent backfilling and compaction operations under other contract item(s). The facility operator(s) shall identify the locations of all utilities within the contract area as required by New York State Industrial Code Rule 753. As provided by the Rule, the Contractor shall use hand excavation methods (pick and shovel or hand held power tools) directly below the pavement base to expose the utility and ascertain the numerical relationships and/or dimensions of these utilities with respect to the proposed excavation. Contractor shall perform test pits to expose the utilities as specified under JB 400. Upon exposing the affected utilities sufficiently, and at the sole discretion of the facility operator(s) to determine relationships and/or dimensions, the Contractor shall be permitted to proceed with hand held power tools to remove existing trolley structure within the zone of protection whose limit shall be defined as a perimeter located 24 inches from the outside face of each utility.

D. Method of Measurement

The quantity to be measured for payment shall be the number of linear feet of modified trolley structure removal within the zone of protection as indicated on the plans, measured along the centerline of trench. The trench is defined as one track set containing two rails. The contract item specified under this section shall not be measured for payment in conjunction with other types of utility items. Modifications to work methods required in areas between zones of protection for multiple utilities or JB facilities shall not be measured for payment and are included in the price bid for this item.

E. Price to Cover

The unit price per linear foot shall include the incremental cost for all labor, equipment, insurance and incidentals required to maintain, protect, support and accommodate the integrity of utility facilities paralleling or encroaching trolley structures during the removal of trolley structures (including rails, timber ties, yokes, trolley conduits, main conduit, rail and yoke foundations), and backfilling and compacting within a zoned area designated for protection of utilities by the facility operator(s).

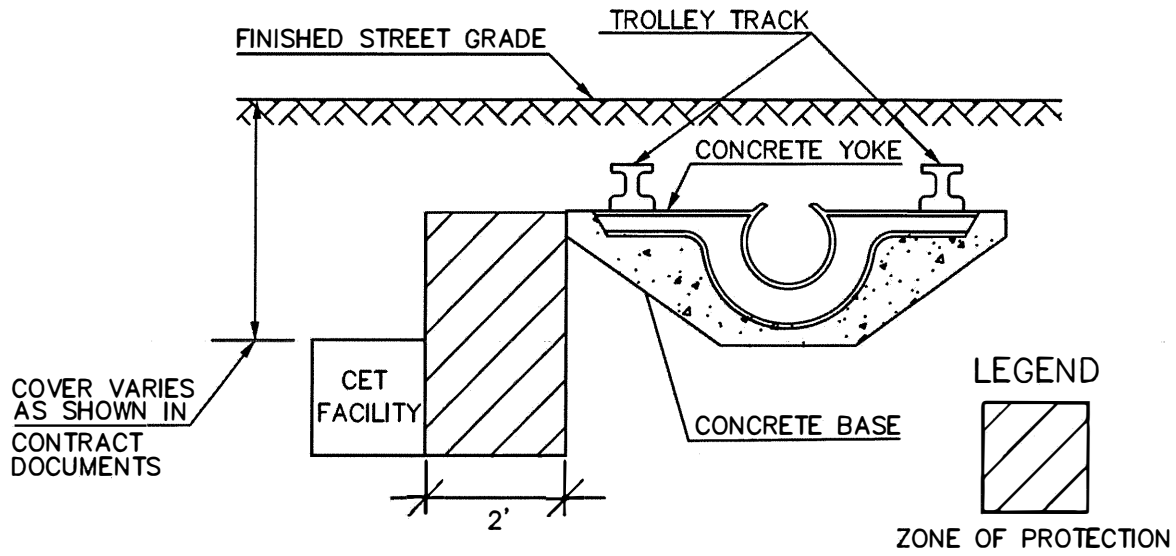
The unit price shall also include any additional cutting, removing and disposing of roadway materials; hand or machine excavation; trucking and disposing of excavated materials, installation and removal of sheeting; and furnishing, installing and compacting backfill that may be required to support, protect, maintain and accommodate the integrity of utility facilities. The unit price shall also include the incremental cost for providing all vehicular and pedestrian traffic maintenance necessary to perform the work.

The Contractor shall be responsible for any and all damages resulting from and/or due to trolley demolition operations that are not performed in accordance with the specifications.

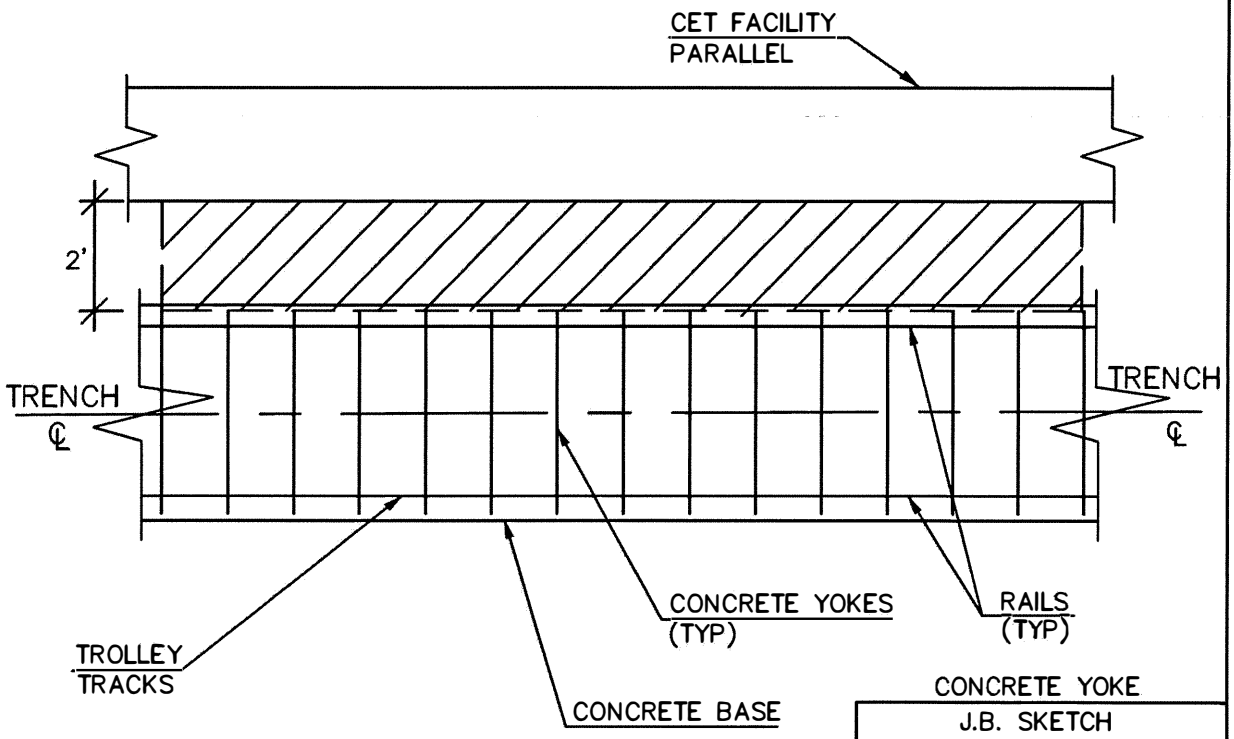
When this work is performed within a mass excavation area, a credit will be taken for the removed trolley structure.

F. References

1. NYS Industrial Code Rule 753
2. Sketch JB 801



SECTION OF CET FACILITIES PARALLELING TROLLEY TRACKS



PLAN OF CET FACILITIES PARALLELING TROLLEY TRACKS

CONCRETE YOKE	
J.B. SKETCH	
CET ACCOMODATION FACILITIES PARALLEL TROLLEY RAILROAD STRUCTURES	
REVISIONS	
09/13/2017	CONTRACT NO. / SKETCH NO. JB 801

JB 802 - SPECIAL MODIFICATION OF WORK FOR INSTALLATION OF NEW CURBS AND SIDEWALKS

A. Description

Under this Section, the Contractor shall be required to modify work methods of installing new curb and sidewalk in order to maintain, protect and accommodate the integrity of private Utility Facilities located within a zone of protection immediately beneath existing sidewalk and curb designated to be replaced under other Contract items. The zone of protection shall define an area of curb and sidewalk where: work is within the vicinity of private Utility Facilities as shown on the Special Care Excavation Plan or where utilities are encountered during construction that are within 18 inches of either face of curb and/or 12 inches of the base material of proposed curb and/or sidewalk.

B. Materials – N/A

C. Method of Operation/Construction

Once clearances have been verified by available records to the satisfaction of the facility operator, the Contractor shall exercise extreme caution to install new curb and sidewalks within zoned areas of protection. Exercising extreme caution shall mean utilizing appropriate methods of operation/construction, special operations and sequencing, and by employing hand labor, using hand held tools only, under the personal direction of the appropriate facility operator. The work shall incorporate, but not be limited by, the following restrictions:

1. Removal of Existing Curb and Sidewalk

Removal of existing curb and sidewalk material shall be performed by saw cutting the curb and sidewalk, for a depth of not less than 2", to assist the Contractor in breaking up the concrete curb and sidewalk for removal by hand. Curb and sidewalk removal shall be done with hand labor, using hand held tools only while working from adjacent undisturbed sidewalk and/or pavement. Furthermore, it shall be understood to mean that digging and/or excavating directly with power-mechanized earth moving equipment will not be permitted. Power mechanized earth moving equipment may only be used as a depository of material removed from the excavation by hand as described above. All equipment, methods, and maintenance and protection provisions shall require full authorization by the facility operator.

2. Preparation and Installation of New Curb and Temporary and New Sidewalk

Backfilling, filling, grading of sub base, and installation of new curb and both temporary and new sidewalk, as required under other Contract Items, shall be performed utilizing materials, equipment and methods of construction that will insure the integrity of the private utility facilities and at the same time meet all requirements for this work as specified in other sections of this contract.

3. Compaction

The Contractor shall compact all sub-grade and new sub-base materials by utilizing native and/or blended fill material, equipment and methods of construction that will ensure integrity of private Utility Facilities and at the same time meet all requirements for compaction as specified in Section 4.11 of the Standard Highway Specifications.

4. Powered Excavating Equipment Limitations

The Contractor shall not employ powered or mechanical excavating equipment within the zone of protection. Powered or mechanical excavating equipment may only be used as a depository for material removed from the excavation by hand as described above.

The Contractor shall not be permitted to store, stand and/or travel equipment/vehicles on specified unpaved zoned protection areas.

D. Method of Measurement

1. ITEM JB 802A

The quantity of "Special Care Excavation and Restoration for Sidewalk Work" to be measured for payment shall be the number of square feet (SF) of new sidewalk actually installed under other contract items within the zone of protection areas requested by the facility operator. For payment purposes, the horizontal limits for a zone of protection area shall be defined as the area designated on the plans or an area equal to the length of the designated facility multiplied by its width plus 18 inches on each side. Where overlapping of zones occur due to multiple facilities, the area will be modified to one zone measured from the outside limits. Where the 18-inch area falls beyond the curb line the outside boundary shall be the curb line.

2. ITEM JB 802B

The quantity of "Special Care Excavation and Restoration for Curb Work" to be measured for payment shall be equal to the number of linear feet (LF) of new curb actually installed under other contract items within the zone of protection areas requested by the facility operator.

E. Price to Cover

1. ITEM JB 802A

The contract price per square foot for "Special Care Excavation and Restoration for Sidewalk Work" shall be the incremental cost difference of all labor, materials, equipment, insurance and incidentals required for excavation and disposal of pavement, base and all other material to new sub-grade within and adjacent to zone of protection areas; saw cutting, grading, preparation of sub-grades, backfilling and compaction within zone of protection areas; all in accordance with the plans, the specifications and the directions of the facility operator. The price shall further include the cost of maintaining, protecting and accommodating the integrity of private Utility Facilities during the performance of sidewalk reconstruction (under other Contract Items) within zone of protection areas designated on the plans or as directed by the facility operator.

2. ITEM JB 802B

The contract price per linear foot for "Special Care Excavation and Restoration for Curb Work" shall be the incremental cost difference of all labor, materials, equipment, insurance and incidentals required to install new curbs and temporary restoration material under other Contract items, within and adjacent to zone of protection areas; all in accordance with the plans, the specifications and the directions of the facility operator. The price shall further include the cost of maintaining, protecting, and accommodating the integrity of private Utility Facilities during the performance of curb reconstruction (under other Contract Items) within zone of protection areas designated on the plans or as directed by the facility operator.

Payment for all work specified herein shall be made on a one-time basis only; no payment will be made for the same area of sidewalk or length of curb more than one time. In addition, work under these items shall not be paid in combination with other utility items.

F. References

1. Section 4.11 Standard Highway Specification

JB 803 - LINE CUT BY PNEUMATIC TOOLS IN LIEU OF SAW CUT ASSOCIATED WITH ROADWAY REMOVAL OPERATIONS

A. Description

Under this section, the Contractor shall provide all incremental labor, equipment, insurance and incidentals required to maintain, protect, support and accommodate the integrity of utility facilities that include but are not limited to oil o static facilities, and any other facilities of various sizes and configurations paralleling or crossing proposed saw cut areas located within a zone of protection associated with roadway removal operations, as determined by the utility operator. Utility facilities which cross under and between the saw cut area are included within this item. The work shall be performed in accordance with the contract plans, the specifications, and as encountered during construction and determined by the facility operator(s).

B. Materials – N/A

C. Method of Construction

The Contractor shall maintain, protect, support and accommodate the integrity of all utility facilities of various sizes and configurations paralleling or crossing the saw cut area within a zone of protection as determined by the Facility Operator, during the roadway saw cut. The facility operator(s) shall identify the locations of all utilities within the contract area as required by New York State Industrial Code Rule 753. As provided by the Rule, the Contractor shall use pneumatic tools to line cut the pavement in lieu of saw cut by machine. It is the sole discretion of the facility operator(s) to determine relationships and/or dimensions, and advise the Contractor to proceed with pneumatic tools to line cut existing roadway structure.

D. Method of Measurement

The quantity to be measured for payment shall be the number of linear feet of line cut performed by pneumatic tools measured along the length of cut. The contract item specified under this section shall not be measured for payment in conjunction with other types of utility items. Modifications to work methods required in areas between zones of protection for multiple utilities or JB facilities shall not be measured for payment and are included in the price bid for this item.

JB 803.1 Line cut Asphalt Roadway (LF)
JB 803.2 Line cut any combination of Asphalt and Concrete Roadway (LF)
JB 803.3 Line cut any combination of Asphalt, Concrete, and Belgium Block (LF)

E. Price to Cover

The unit price per linear foot shall include the incremental cost for all labor, equipment, insurance and incidentals required to maintain, protect, support and accommodate the integrity of utility facilities paralleling or crossing the saw cut area associated with the removal of roadway designated for protection of utilities by the facility operator(s).

The unit price shall also include any additional cutting, removing and disposing of roadway materials; and any backfill that may be required to support, protect, maintain and accommodate the integrity of utility facilities. The price shall also include the incremental cost for providing all vehicular and pedestrian traffic maintenance necessary to perform the work.

The Contractor shall be responsible for any and all damages resulting from and/or due to saw cutting operations that are not performed in accordance with the specifications.

F. References

1. NYS Industrial Code Rule 753

JB 117T – SLEEVE AND SEAL TELECOM UTILITIES CROSSING PILES FOR FLOOD WALL OR FLOOD GATE

A. Description

Under this section, the Contractor shall provide all incremental labor, materials, equipment, insurance and incidentals required to sleeve and seal utility facilities, including but not limited to:

1. Conduits;
2. Conductors;
3. Concrete encased conduit banks;
4. Clay tile conduit banks;
5. Steel/iron pipes;
6. Plastic conduit banks;
7. Fiber optic lines;
8. Any Verizon-owned facility unearthed during construction;

of various sizes and configurations as encountered during construction, of the proposed flood wall, flood gate or retaining wall between the piles and through flowable fill (or approved equal). Auger piles or a Verizon approved equivalent method will be used under this specification to limit vibration around the utility facilities. Utility crossings, under no circumstance, will cross through jet grout material. The support, maintenance, protection, and accommodation of utility facilities, including minor adjustments to these facilities, as encountered during performance of this item and any test pits ordered by the City or Facility Operator in reference to this item shall be paid under other appropriate JB items.

Utilities crossing the flood wall, flood gate and retaining wall shall be at a 90 degree angle to the proposed sheeting line or side of excavation (for unsheeted trenches) with an allowable deviation of 60 degrees in any direction.

This item includes the additional material and effort(s), above and beyond the utility crossing details included in the final contract drawings.

In consultation with the Resident Engineer, the facility operator through its authorized representatives shall be solely responsible for approval of methods used by the contractor to perform work under this item. All work shall be performed without risking the integrity of the utility facility and be done consistent with all applicable safety standards as directed by the facility operator in consultation with the Resident Engineer.

B. Materials

All materials used to sleeve and seal utility facilities including but not limited to additional auger piles, lean concrete, extrudable hydrophilic waterstops, ribbed centerbulb waterstops, flowable fill, sand, sleeves, link seal, and altering of any kind to sheeting and shoring systems, and any incidental hardware shall be supplied by the Contractor, at no cost to Verizon and approved by the facility operator in consultation with the Resident Engineer. All conduit(s) shall be supplied to the Contractor's requested location by the facility operator for work under this item. The Contractor shall be responsible to unload, handle, store, deliver and/or distribute any material supplied by the facility operator(s) to the required job location(s) for the duration of the contract. It shall also be the Contractor's responsibility to inspect and verify upon delivery that the correct quantity of material has been delivered and to advise the facility operator(s), through its

authorized representative, of all damaged material. The Contractor at no additional expense to the facility operator(s) shall replace any material that is damaged or lost after the Contractor's inspection and acceptance.

C. Methods of Construction

All work shall comply with the specifications, plans and standard of the facility operator. The Contractor shall refer to Utility Crossings details for the flood wall, flood gate and retaining wall design. Alternate sheeting means and methods and/or a combination of methods shall be covered by this section if proposed by the Contractor and approved by the facility operator in consultation with the Resident Engineer. It is the intent of this item to provide link seal around Verizon's facilities on the flood side of the structure, install a sleeve running the entire length of the crossing, and in the remaining voids provide sand between the sleeve and utility. Methods to perform this work in flowable fill material shall be permitted if proposed by the Contractor and approved by the facility operator in consultation with the Resident Engineer.

D. Method of Measurement

The quantity to be measured for payment shall be each (EA) type of utility facility located underneath the proposed flood wall/flood gate/retaining wall crossing through flowable fill material between the auger piles where the sleeve and modified wall/gate section is installed, as encountered during construction and as directed by the facility operator in consultation with the Resident Engineer. The types of piles included under this specification include sheet piles and steel pipe piles as referenced in the Contract Drawings as defined below:

JB 117TB = Utilities crossing sheet piles for flood wall/gate
JB 117TC = Utilities crossing steel pipe piles for flood wall/gate

The various types of facility crossings (described below) shall be defined as "ranges" of their cross sectional areas, measured in square feet (SF) along a plane cutting through the trench parallel to the flood wall/flood gate/retaining wall. The area shall be a rectangle or square vertical plane enclosing and touching the outside limits of the utility. The sides of the rectangle or square shall be approximately level and plumb. When utility facilities are located and overlap at any point along the utility spans crossing the trench excavation and are over, or under and within one foot of each other, both horizontally and vertically, the utility facilities involved shall be considered, for the purposes of this section, as one utility crossing limited by the outside faces of the extreme pipes, conduits, ducts and/or duct banks. The cross sectional area to be measured shall be selected at the point of the greatest area along the utility spanning the trench excavation, as previously described. Each type of utility crossing shall be paid for separately. The types of utility crossings are defined as follows:

Type .1 = Cross sectional area of utility up to and including 0.75 SF
Type .2 = Cross sectional area of utility over 0.75 SF, up to and including 2.0 SF
Type .3 = Cross sectional area of utility over 2.0 SF, up to and including 6.0 SF
Type .4 = Cross sectional area of utility over 6.0 SF, up to and including 10.0 SF
Type .5 = Cross sectional area of utility over 10.0 SF, up to and including 20.0 SF

E. Price to Cover

The unit price bid for each of the various items shall cover the cost of all labor, materials, equipment, insurance and incidentals necessary to sleeve and seal the utilities without disruption of service to the customers and in accordance with contract documents. Vibration monitoring shall be deemed included in the cost of all joint bid items (see general notes). Utility facilities through flowable fill material, excavatable fill, or approved equal are permitted in accordance with the facility

operator and in consultation with the Resident Engineer. Under no circumstance shall utility facilities cross through jet grout material.

The unit price shall also include the cost of changes of sheeting means and methods and configuration where necessary to accommodate the utility, hand excavation within the zone of protection, removal of sheeting around the utilities, and the cost of any impact with maintenance and protection of traffic. The zone of protection varies for each type of utility facility and shall be determined by the facility operator and in consultation with the Resident Engineer. Where the typical utility crossing details provided in the contract drawings for the flood wall, flood gate and retaining wall require modification, the unit price shall also include the cost of additional concrete, additional steel reinforcement, pile cap and auger pile design as directed by the facility operator in consultation with the Resident Engineer.

F. References

Details will be provided during construction when the extent of work included under this item is identified by the facility operator in consultation with the Resident Engineer.

JB 118T – SUPPORT AND PROTECTION OF TELECOM UTILITIES CROSSING THROUGH REINFORCED CONCRETE WALL, FOUNDATION OR PILE CAP OF CITY INFRASTRUCTURE

A. Description

Under this section, the Contractor shall provide all incremental labor, materials, equipment, insurance and incidentals required to support and protect utility facilities, included but not limited to:

1. Conduits;
2. Conductors;
3. Concrete encased conduit banks;
4. Clay tile conduit banks
5. Steel/iron pipes;
6. Plastic conduit banks;
7. Fiber optic lines;
8. Any Verizon-owned facility unearthed during construction;

of various sizes and configurations as encountered during construction, of City infrastructure, (i.e., flood wall, flood gate, reinforced concrete foundation or pile cap). Auger piles or a Verizon approved equivalent method will be used under this specification to limit vibration around the utility facilities. The support, maintenance, protection, and accommodation of utility facilities encountered, including minor adjustments to these facilities, as encountered during performance of this item and any test pits ordered by the City or Facility Operator in reference to this item shall be included in the unit price.

Utilities crossing all City infrastructure (as noted above) shall be at a 90 degree angle to the proposed sheeting line or side of excavation with an allowable deviation of 60 degrees in any direction.

This item includes any additional material and effort(s) above and those included in the contract drawings for the design. In this instance, the Contractor shall submit a redesign of the foundation and piles layout, signed and sealed by a professional engineer licensed in NYS, to accommodate Verizon utilities for review and approval by the City and Verizon.

In consultation with the Resident Engineer, the facility operator through its authorized representatives shall be solely responsible for approval of methods used by the contractor to perform work under this item. All work shall be performed without risking the integrity of the utility facility and be done consistent with all applicable safety standards as directed by the facility operator in consultation with the Resident Engineer.

B. Materials

All materials used to support and protect facilities shall be supplied by the Contractor, at no cost to Verizon, and approved by the facility operator in consultation with the Resident Engineer. The Contractor shall be responsible to unload, handle, store, deliver and/or distribute any material supplied by the facility operator(s) to the required job location(s) for the duration of the contract. It shall also be the Contractor's responsibility to inspect and verify upon delivery that the correct quantity of material has been delivered and to advise the facility operator(s), through its authorized representative, of all damaged material. The Contractor at no additional expense to the facility operator(s) shall replace any material that is damaged or lost after the Contractor's inspection and acceptance.

Areas around Verizon facilities shall be backfilled with type 3/8 clean sand backfill, as directed by the facility operator in consultation with the Resident Engineer and paid under this item.

C. Methods of Construction

Upon the City and Verizon's approval of the foundation and piles layout redesign, all support and protection work shall comply with the specifications, plans and standards of the facility operator. Methods to perform this work shall be permitted if proposed by the Contractor and approved by the facility operator in consultation with the Resident Engineer.

D. Method of Measurement

The quantity to be measured for payment shall be each (EA) type of utility facility crossing the city infrastructure, as encountered during construction and as directed by the facility operator in consultation with the Resident Engineer and as defined below:

JB 118T = Support and protection of utilities crossing through reinforced concrete wall, foundation or pile cap of City infrastructure

The various types of facility crossings (described below) shall be defined as "ranges" of their cross sectional areas, measured in square feet (SF) along a plane cutting through the trench parallel to the flood wall/flood gate. The area shall be a rectangle or square vertical plane enclosing and touching the outside limits of the utility. The sides of the rectangle or square shall be approximately level and plumb. When utility facilities are located and overlap at any point along the utility spans crossing the trench excavation and are over, or under and within one foot of each other, both horizontally and vertically, the utility facilities involved shall be considered, for the purposes of this section, as one utility crossing limited by the outside faces of the extreme pipes, conduits, ducts and/or duct banks. The cross sectional area to be measured shall be selected at the point of the greatest area along the utility spanning the trench excavation, as previously described. Each type of utility crossing shall be paid for separately. The types of utility crossings are defined as follows:

Type .1 = Cross sectional area of utility up to and including 0.75 SF
Type .2 = Cross sectional area of utility over 0.75 SF, up to and including 2.0 SF
Type .3 = Cross sectional area of utility over 2.0 SF, up to and including 6.0 SF
Type .4 = Cross sectional area of utility over 6.0 SF, up to and including 10.0 SF
Type .5 = Cross sectional area of utility over 10.0 SF, up to and including 20.0 SF

E. Price to Cover

The unit price bid for each of the various items shall cover the cost of the Contractor's foundation or piles layout redesign, all labor, materials, equipment, insurance and incidentals necessary to completely support and maintain and protect and accommodate the integrity of the utilities without disruption of service to the customers and in accordance with contract documents.

The support, maintenance, protection, and accommodation of utility facilities, including minor adjustments to these facilities, as encountered during performance of this item and any test pits ordered by the City or Facility Operator in reference to this item shall be included in the unit price. The unit price shall also include the cost of changes of sheeting means and methods and configuration where necessary to accommodate the utility, hand excavation within the zone of protection, removal of sheeting around the utilities, the cost of any impact with maintenance and protection of traffic and any all delays incurred shall be at the Contractor's expense. The zone of protection varies for each type of utility facility and shall be determined by the facility operator and in consultation with the Resident Engineer. The unit price shall also include the cost of additional concrete and all formwork, additional steel reinforcement, cutting and installing; pile cap and pile design as directed by the facility operator in consultation with the Resident Engineer.

The price shall cover any costs incurred for the Contractor to coordinate with Verizon; modification of work methods and/or construction sequencing, any impact with maintenance and protection of traffic, and loss of productivity.

F. References

Details will be provided during construction when the extent of work included under this item is identified by the facility operator in consultation with the Resident Engineer.

JB 403 - PLACING STEEL PROTECTION PLATES FOR UTILITY FACILITIES

A. Description

Under this Section, the Contractor shall place permanent Steel protection plates supplied by the facility operator(s) over utility facilities where directed by the facility operator(s) in consultation with the Resident Engineer.

B. Materials

Materials shall be supplied and delivered by the facility operator(s) at the job site or Construction Yard as directed by the Contractor.

C. Method of Construction

Steel protection plates shall be placed in accordance with the attached facility operator(s) Standard Sketch # JB 403 A.

D. Method of Measurement

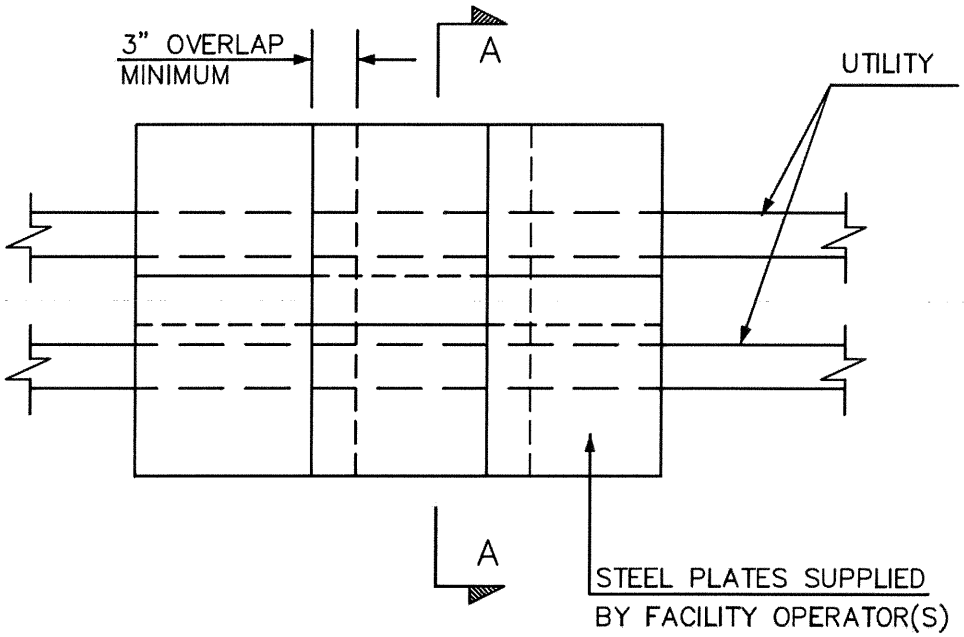
The quantity for payment shall be the area of permanent steel plating protection installed and measured in Square Feet (S.F.).

E. Price to Cover

The unit price bid shall cover the cost of all labor, material, equipment, insurance, and incidentals necessary to complete the work.

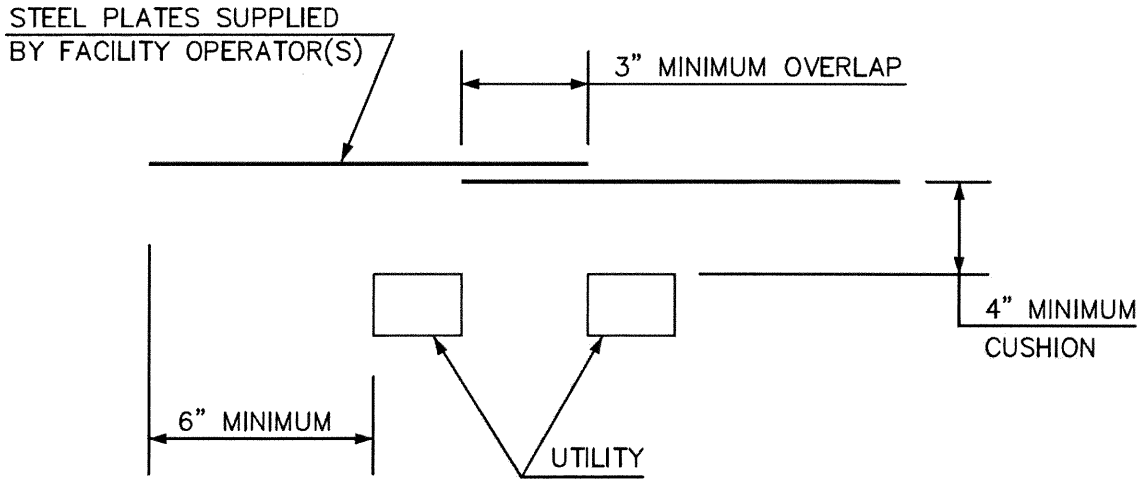
F. References

1. Sketch JB 403A



PLAN

NOT TO SCALE



SECTION A–A

NOT TO SCALE

TYPICAL PLATE SIZES:
15" x 21" x 3/8"
16" x 24" x 3/8"
21" x 27" x 3/8"

REVISIONS	J.B. SKETCH
	PLACING STEEL PROTECTION PLATES FOR ELECTRIC AND COMMUNICATION FACILITIES
	CONTRACT NO. / SKETCH NO. J.B. 403 A

JB 405 - EXCAVATION FOR INSTALLATION OF UTILITY FACILITIES

A. Description

Under this section, the Contractor shall provide all labor, materials, equipment, insurance and incidentals necessary to excavate and maintain trenches for the installation of new Utility Facilities including but not limited to:

1. Conduits;
2. Non Cost Sharing Gas facilities;
3. Steam Mains;
4. Steel Pipe(s)

The trench to be excavated shall be determined by the size of the utility facility to be installed. The work shall be performed in accordance with applicable specifications, and/or at the direction of the facility operator in consultation with the Resident Engineer.

B. Materials

All materials used to excavate and prepare trenches shall be supplied by the Contractor and be approved by the facility operator in consultation with the Resident Engineer.

C. Methods of Construction

1. Excavation – The Contractor shall saw cut and/or break and remove existing roadway which may include but is not limited to, asphalt, concrete and cobblestone, utilizing approved equipment that leaves a neat straight joint line along the juncture with subsequently replaced pavement. The Contractor shall be permitted to excavate utilizing a combination of machine and hand excavation, as field conditions warrant and as directed by the facility operator. The trench shall be adjusted so as to provide for a nominal cover of 24" over the new utility facilities or as required based on field conditions, applicable specifications, or as directed by the facility operator in consultation with the Resident Engineer. The width of the trench shall be as directed by the facility operator in consultation of the Resident Engineer. The bottom of the trench shall be graded smooth with a minimum cushion of 3 inches of sand or in conformance with applicable specification and be compacted, to minimize initial settlement and to avoid "point" support of new utility facilities. All stones projecting into the trench bottom shall be removed, and the voids backfilled before the new utility facilities are installed. Where streets are not to final grade, the cover shall be measured from the final grade, or the existing grade, whichever provides the deeper trench. Excavation in the vicinity of utilities and other structures shall be performed using hand tools. The contractor shall properly dispose of all materials excavated away from site. Size and location of excavation shall be as directed by the facility operator in consultation with the Resident Engineer. Trenches shall be excavated to a depth and size necessary to facilitate the installation of the new utility facility and in conformance with the applicable specification. All existing facilities that are encountered during trench excavating shall be protected in a manner suitable to the facility operator in consultation with the Resident Engineer. Tight sheeting shall be used, as required, based on field conditions and/or

when the depth of excavation is equal to or greater than five feet. Skeleton type sheeting will not be permitted. The sheeting required shall be furnished and installed in full compliance with the State of New York and Federal Safety Code requirements and in compliance with applicable specifications and/or as directed by the facility operator in consultation with the Resident Engineer.

Care shall be taken that no existing utility facilities or other structures are broken or damaged. Contractor shall excavate all material encountered necessary to facilitate the installation of the new utility facilities, and as directed by the facility operator. Care should be taken to avoid damage to existing utility facilities and structures, and to pavements and their foundations, and to avoid caving or sliding banks within the excavation.

2. Maintenance of Trench Excavation - Excavated trenches shall be maintained free of debris and kept dry by the contractor. In order to accomplish this, contractor shall, upon completion of excavation and placement of sheeting (as required and/or if depth is equal to or greater than five feet), furnish and install adequate steel plates, as directed by the facility operator in consultation with the Resident Engineer, and posting over the excavated trenches and shall temporarily remove all equipment debris and workers, and relocate barricades in order to open the full width of street to traffic during non-working hours, as required based on DOT requirements. The Contractor shall then, at no additional cost, relocate such barricades barrels, cones and other warning devices and remove steel plates, as and when directed by the facility operator in consultation with the Resident Engineer to facilitate the installation of the new utility facility. When work is being performed and the excavations are not covered with steel plates, the Contractor shall provide complete and safe access to the trench as may be required, and shall provide construction barricades and maintain traffic at all times as shown or as directed by the facility operator in consultation with the Resident Engineer. Upon completion of installation of the new utility facility, the trench excavation shall be backfilled by the contractor in accordance with Contract requirements and all backfill material shall conform to contract specifications for such purpose.

3. Pavement and Sidewalk Restoration - After backfilling is completed, the contractor shall install temporary pavement consisting of six inches (6") thick asphaltic concrete mixture in roadway areas or a two inches (2") thick asphaltic concrete mixture in sidewalk areas in order to maintain existing pedestrian and vehicular traffic. This temporary pavement shall be maintained until permanent replacement as specified in contract.

D. <u>Method of Measurement</u>

The quantity to be measured for payment shall be the number of cubic yards (C.Y.) of trench actually excavated as directed by the facility operator in consultation with the Resident Engineer. The volume occupied by existing pipes or other structures will not be deducted from the total volume measured.

JB 405.1 Trench Excavations for installation of Utility Facilities with total depths less than five feet (C.Y.)

JB 405.2 Trench Excavations for Utility Facilities with total depths equal to or greater than five feet (C.Y.)

E. Price to Cover

The unit price bid for the various trench excavation items shall include the cost of all labor, materials, equipment, insurance, and incidentals necessary to completely expose, protect and maintain the integrity of the facilities without disruption of service to the customers and in accordance with the Contract Documents. The price shall also include, associated maintenance of traffic, and traffic plates and openings and closings of plates as may be required in order to provide access to trench, and installing, removing and maintaining tight sheeting that may be required, cut, break and remove various thickness of surface and base pavement, excavate by hand to expose existing structures, furnish, place and compact, in compliance with DOT requirements, clean backfill following installation of utility facility and/or required vertical and/or horizontal adjustments have been completed under other Sections. Any required removing, trucking, storing, and disposing of material shall be deemed included in the unit price. The price shall also include the cost of providing temporary pavement restoration. Permanent pavement restoration shall be paid under other items, only if required and directed by the Resident Engineer. The price shall also include the cost of locating and protecting all utilities encountered as required.
Sand backfill material shall be used around gas facilities and oil-o-static pipes and will be paid for under item JB 303.

F. References

1. JB 303

JB 500 - REMOVAL OF ABANDONED UTILITY CONDUITS (NON-CONCRETE ENCASED)

A. Description

Under this section, the Contractor shall provide all labor, materials, equipment, insurance and incidentals required to remove all abandoned conduit(s), including but not limited to:

1. Conduit(s) (non-concrete encased)

The work shall include the breaking, removal and disposal of conduits (all types excluding steel pipes) and including backfilling with clean earth.

B. Materials

All materials including but not limited to clean backfill shall be supplied by Contractor and approved by the facility operator(s) in consultation with the Resident Engineer.

C. Methods of Construction

The facility operator(s) shall identify the locations of utilities that are abandoned within the contract area that are to be removed under this item. The authorized field representative of the facility operator shall certify in a timely manner acceptable as to which facilities are abandoned. The Contractor shall remove and properly dispose of all conduit(s) material encountered and seal the existing abandoned conduit(s) openings.

D. Method of Measurement

The quantity to be measured for payment shall be the linear footage (L.F.) of total number of conduit(s) removed.

E. Price to Cover

The unit price bid shall cover the cost of all labor, material, equipment, insurance and incidentals necessary to remove the abandoned conduit(s). The price shall also include the cost of removal and disposal of conduit(s); supplying clean earth material, backfilling with clean earth approved by the facility operator(s) in consultation with the Resident Engineer; sealing the existing abandoned conduit(s) openings; and all other items necessary to perform all work incidentals thereto.

F. References

None

ConEd Spec.

JB 603E - INSTALL UTILITY CONDUIT

A. Description

Under this Section, the Contractor shall provide all labor, materials, equipment, insurance and incidentals required to install utility conduit(s), excluding telecommunication conduits.

B. Materials

The Contractor shall supply all material (Mortar, Brick, etc.) to make repairs to opening(s) as approved by the facility operator in consultation with the Resident Engineer. All conduit(s) including sleeves, couplings, pulling lines, etc. shall be supplied to the Contractor's requested location by the facility operator for work under this item.

C. Method of Construction

The Contractor shall install conduit(s), as shown on sketches JB 603E.1, .2, .3, .4, from designated facility operator service points and/or structures to other facility structures, City-owned boxes, street light and traffic light foundations, install said conduit, rod, mandrel and wire the new conduit(s) and (install pulling lines) in accordance with the contract plans and specifications. When conduit pipes are to be connected to existing underground ducts, manholes, or boxes, the Contractor, using hand-held tools only, shall cut existing conduit, to pick-up existing underground conduits with new conduits, make openings into manholes or boxes, install/connect the conduit, and make repairs to seal the openings in the structure. The work shall be performed in accordance with the contract plans, specifications, and at the direction of the facility operator in consultation with the Resident Engineer.

Conduits that require concrete encasement shall be encased in 3200-PSI concrete to two (2) inches outside the limits of the conduit bank. Encasement shall overlap a minimum of two (2) feet beyond the adapter, as required.

If due to subsurface conditions, the cover is less than 20" from finished grade, the conduits shall be protected with steel plates furnished by the facility operator and measured for payment under Item JB-403.

D. Method of Measurement

The quantity to be measured for payment shall be the number of total linear feet (LF) of 2", 4" and/or 5" conduit(s) installed of various types, sizes and configurations.

JB 603E.1 Conduits Placed in Final Position without Concrete Encasement. (L.F.)

JB 603E.2 Conduits Placed in Final Position with Concrete Encasement. (L.F.)

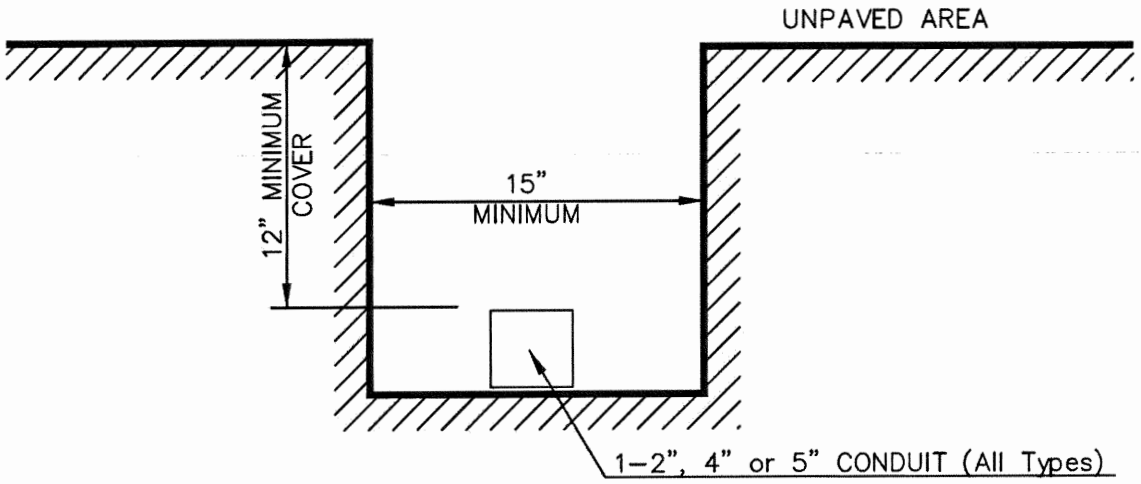
E. Price to Cover

The unit price bid per linear foot of conduit(s) installed with or without concrete encasement shall cover the cost of all labor, materials, equipment, insurance and incidentals necessary to unload, store, handle, install, rod, mandrel, wire and perform any other associated work required to install the conduit(s) completely in place. Where conduits are to be connected to ducts, manholes or boxes, the cost of cutting existing conduit, to pick-up existing underground conduits with new conduits, make openings into manholes or boxes, installing and sealing the conduit; furnishing and installing forms and concrete encasement, removing forms and making repairs to the openings in the structure, all associated maintenance and support of traffic shall be considered as included in the unit price bid for the installation of the conduit(s).

Work under these items may be paid in combination with other City utility or facility accommodation items paid under other contract bid items.

F. References

1. Sketches JB 603E, JB 603E.2, JB 603E.3, JB 603E.4
2. Item JB 403



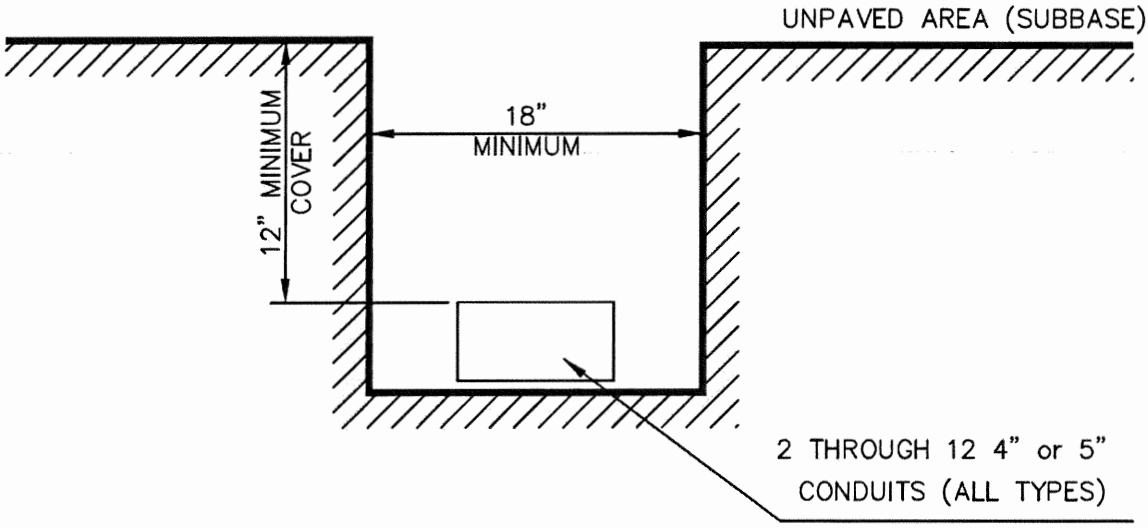
EXCAVATION OF THE TRENCH –

THE BOTTOM OF THE TRENCH SHALL BE GRADED SMOOTH AND TAMPED TO MINIMIZE INITAL SETTLEMENT AND TO AVOID "POINT" SUPPORT OF CONDUITS. ALL STONES PROJECTING INTO THE TRENCH SHALL BE REMOVED FROM THE TRENCH BOTTOM AND THE VOIDS BACKFILLED BEFORE CONDUIT INSTALLATION. THE CONDUIT INSTALLATION SHALL BE IN AS STRAIGHT ALIGNMENT AS POSSIBLE WITH CONTINUOUS CONCENTRIC BORES AND FLUSH JOINTS TO PERMIT SMOOTH, EASY PULLING OF CABLE WITHOUT DAMAGE. THE INTERIOR OF THE CONDUIT MUST BE FREE OF IMPERFECTIONS AND CARE SHALL BE EXERCISED TO PREVENT INTRODUCTION OF FOREIGN MATERIAL.

COUPLINGS –

SLIP OR PLASTIC COUPLINGS SHALL BE USED AS REQUIRED, TO JOIN ALL CONDUIT.

J.B. SKETCH	
TRENCH EXCAVATION FOR 1–2", 4" or 5" CONDUIT (All Types)	
REVISIONS	
CONTRACT NO.	SKETCH NO. J.B. 603E.1



EXCAVATION OF THE TRENCH –

THE BOTTOM OF THE TRENCH SHALL BE GRADED SMOOTH AND TAMPED TO MINIMIZE INITAL SETTLEMENT AND TO AVOID "POINT" SUPPORT OF CONDUITS. ALL STONES PROJECTING INTO THE TRENCH SHALL BE REMOVED FROM THE TRENCH BOTTOM AND THE VOIDS BACKFILLED BEFORE CONDUIT INSTALLATION. THE CONDUIT INSTALLATION SHALL BE IN AS STRAIGHT ALIGNMENT AS POSSIBLE WITH CONTINUOUS CONCENTRIC BORES AND FLUSH JOINTS TO PERMIT SMOOTH, EASY PULLING OF CABLE WITHOUT DAMAGE. THE INTERIOR OF THE CONDUIT MUST BE FREE OF IMPERFECTIONS AND CARE SHALL BE EXERCISED TO PREVENT INTRODUCTION OF FOREIGN MATERIAL.

COUPLINGS –

PLASTIC COUPLINGS SHALL BE USED TO JOIN ALL CONDUIT.

	JB SKETCH
REVISIONS	TRENCH EXCAVATION FOR 2 Through 12 Conduits (ALL TYPES)
	CONTRACT NO. / SKETCH NO. J.B. 603E.2

JB 638N – INSTALLATION OF FIELD CONSTRUCTED UTILITY STRUCTURE

This section describes the work of performing the installation of field constructed utility structures approved by the facility operator in consultation with the Resident Engineer. The utility structure shall be field constructed and installed in compliance with standard utility specifications and/or methods approved by the facility operator in consultation with the Resident Engineer.

A. Description

Installation of field constructed utility structure shall comply with utility standard specification and/or as directed by the facility operator in consultation with the Resident Engineer and shall include:

- Service Boxes (various sizes)
- Manholes (various sizes)
- Vaults (various sizes)
- Valve Boxes (various sizes)

B. Materials

All materials used shall be supplied by the Contractor and comply with the standards of the facility operator. Where applicable, the Contractor shall obtain pre-cast roofs that are available from the facility operator's vendor.

C. Method of Construction

All work shall comply with the utility specifications, plans, and standards of the facility operator.

The Contractor shall perform the necessary field construction of the floor, walls, and roof of the utility structure as directed by the facility operator in consultation with the Resident Engineer. New roof slabs shall be monolithic or non-monolithic as directed by the facility operator in consultation with the Resident Engineer. New non-monolithic roofs shall be removable and cast on site or pre-cast as directed by the facility operator. No traffic shall be allowed on the structure until permitted by the facility operator in consultation with the Resident Engineer.

Field conditions may require the Contractor to modify the standard specifications of the floor, walls and roof of the utility structure, as directed by the facility operator in consultation with the Resident Engineer.

Refer to specification JB 636E for guideline relating to the installation of new frames and covers.

All work shall be done in a workmanlike manner and any damage resulting from the Contractor's operations shall be satisfactorily corrected as directed by the facility operator in consultation with the Resident Engineer and at the Contractor's expense. The Contractor shall perform the installation of the utility structure while maintaining, supporting, and protecting and accommodating the integrity of all utility facilities (without disruption of service) located within the areas of the excavation and the field constructed structure.

This item shall also apply when partially or totally rebuilding or modifying an existing utility structure.

D. Method of Measurement

The quantity to be measured for payment shall be the number of cubic yards (CY) of concrete, cast on site concrete, brick, and mortar in place to the nearest hundredth of a cubic yard. No deductions will be made for the spaces occupied by steel reinforcement.

E. Price to Cover

The unit price bid under this item shall be a unit price per cubic yard (CY) of concrete, cast on site concrete; brick and mortar placed in the field constructed utility structure. The unit price shall cover the cost of all labor, materials, plant, equipment, insurance; maintenance and protection of traffic and incidentals required to field construct partially or totally, rebuild or modify, a privately owned utility structure. The unit price shall also include all formwork, installation of concrete, bricks, mortar, steel reinforcement, structural steel beams, furnish and install pre-cast roofs, chimney, and installation of interior hardware and exterior hardware, including frames and covers. The unit price shall further include the cost of maintaining, supporting, protecting and accommodating the integrity of all utility facilities (without disruption of service) during the work within the areas of excavation and the field constructed structure, and the furnishing of samples, as required. All work shall comply with the plans, specifications, standards, and directions of the facility operator in consultation with the Resident Engineer.

Demolition of the existing utility structure, including haul away and disposal of demolished materials and any formwork, concrete, bricks, mortar, steel reinforcement, structural steel beams, interior hardware, exterior hardware and frames and covers shall be paid under item JB 638R, if required.

All pavement breaking, pavement removal and disposal, excavation, haul away, and disposal, furnish and install backfill, temporary pavement, sheeting, bracing, and all necessary incidentals shall be paid under item JB 406, only if required.

F. References

1. JB 406
2. JB 636E
3. JB 638R
4. Utility Specification Drawings

JB 638R – BREAK OUT AND REMOVE UTILITY STRUCTURE

A. Description

Under this section, the Contractor shall provide all labor, materials, equipment, insurance and incidentals necessary to partially or totally break out and remove existing utility structures using methods approved by the facility operator in consultation with the Resident Engineer. Breaking out and removing existing utility structures shall be performed while maintaining and protecting all subsurface facilities, at locations approved by the Facility Operator in consultation with the Resident Engineer. The Contractor will encounter various underground facilities, located both inside and outside the utility structure, while partially or totally breaking out and removing existing utility structures and will be required to excavate and perform work over, under, adjacent to, around, in between and in close proximity of various congested configurations of multiple facilities, conduits, pipes and cables.

All work required to partially or totally break out and remove existing utility structures shall comply with standard utility specifications and/or as directed by the facility operator in consultation with the Resident Engineer and shall include but not be limited to:

- Service Boxes (various sizes)
- Manholes (various sizes)
- Vaults (various sizes)
- Valve Boxes (various sizes).

B. Materials

All materials used shall be supplied by the Contractor and comply with the standards of the facility operator.

C. Method of Construction

The Contractor shall perform the necessary breaking out and removal of the existing utility structure while maintaining and protecting all subsurface facilities. The Contractor will encounter various underground facilities located both inside and outside the utility structure, while partially or totally breaking out and removing existing utility structures and will be required to excavate and perform work over, under, adjacent to, around, in between and in close proximity of various congested configurations of multiple facilities, conduits, pipes and cables, as directed by the facility operator in consultation with the Resident Engineer. All work shall be done in a workmanlike manner and any damage resulting from the Contractor's operations shall be satisfactorily corrected as directed by the facility operator in consultation with the Resident Engineer and at the Contractor's expense.

This item shall also apply when partially or totally breaking out and removing an existing utility structure.

D. Method of Measurement

The quantity to be measured for payment shall be the number of cubic yards (CY) of concrete, reinforced concrete, brick, and mortar of the existing utility structure broken out, removed and disposed to the nearest hundredth of a cubic yard. No deductions will be made for the spaces occupied by steel reinforcement.

E. Price to Cover

The unit price bid under this item shall be a unit price per cubic yard (CY) of concrete, reinforced concrete, brick, and mortar of the existing utility structure broken out, removed and disposed. The unit price shall also cover the cost of all labor, materials, plant, equipment, insurance, maintenance and protection of traffic and incidentals required to partially or totally break out, remove and dispose of existing utility structure. The unit price shall also include demolition of the existing utility structure, haul away and disposal of demolished materials, formwork, concrete, bricks, mortar, steel reinforcement, structural steel beams, interior hardware, exterior hardware, including frames and covers. The unit price shall further include the cost of maintaining, supporting, protecting and accommodating the integrity of all utility facilities (without disruption of service) during the work within the areas of excavation and the existing structure. All work shall comply with the plans, specifications and standards, provided by and at the directions of the facility operator in consultation with the Resident Engineer.

All pavement breaking, pavement removal and disposal, excavation, haul away, and disposal, furnish and install backfill, temporary pavement, sheeting, bracing, and all necessary incidentals shall be paid under item JB 406, only if required.

F. References

1. JB 406

END OF JB-PAGES SECTION C
(NO FURTHER TEXT ON THIS PAGE)

SECTION D. PRIVATE UTILITIES PARTICIPATING LIST

LISTING OF COMPANIES NAMED FOR THIS CONTRACT

SANDRDHK
RED HOOD COASTAL RESILIENCY
BOROUGH OF BROOKLYN

COMPANY NAME	CONTACT NAME	CONTACT	EMAIL
THE CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.	DENNISSE AGUGLIARO	(718) 802-3020	AGUGLIARODE@CONED.COM
Verizon New York Inc. ("Verizon")	AUBREYMAKHANLALLAL	(516) 758-3705	AUBREY.N.MAKHANLALL@VERIZON.COM
National Grid USA ("National Grid")	Neville Jacobs Jr.	(718) 963-5612	Neville.Jacobs@nationalgrid.COM

END OF JB-PAGES SECTION D
(NO FURTHER TEXT ON THIS PAGE)

SECTION E. PRIVATE UTILITIES SCOPE OF WORK

JOINT BID WORKSHEET

ENGINEER'S ESTIMATE OF QUANTITY AND TYPES OF INTERFERENCE

FOR CONSOLIDATED EDISON COMPANY OF NEW YORK

SANDRDHK

RED HOOK COASTAL RESILIENCY

BOROUGH OF BROOKLYN

JOINT BID ITEM NUMBER	DESCRIPTION	UNITS	ESTIMATED QUANTITY
JB 100.1	UTILITIES CROSSING TRENCH FOR CATCH BASIN CHUTE CONNECTION (TYPE .1)	EA	9
JB 100.2	UTILITIES CROSSING TRENCH FOR CATCH BASIN CHUTE CONNECTION (TYPE .2)	EA	20
JB 100.3	UTILITIES CROSSING TRENCH FOR CATCH BASIN CHUTE CONNECTION (TYPE .3)	EA	2
JB 101.1	UTILITIES CROSSING TRENCH FOR SEWERS OVER 12" TO 24" DIAMETER (TYPE .1)	EA	11
JB 101.2	UTILITIES CROSSING TRENCH FOR SEWERS OVER 12" TO 24" DIAMETER (TYPE .2)	EA	7
JB 108.1	UTILITIES CROSSING TRENCH FOR WATER MAIN UP TO AND INCLUDING 12" DIAMETER (TYPE .1)	EA	11
JB 108.2	UTILITIES CROSSING TRENCH FOR WATER MAIN UP TO AND INCLUDING 12" DIAMETER (TYPE .2)	EA	4
JB 109.1	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 12" AND UP TO 24" DIAMETER (TYPE .1)	EA	8
JB 109.2	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 12" AND UP TO 24" DIAMETER (TYPE .2)	EA	3
JB 225.2A	INSTALLATION OF CATCH BASINS WITH UTILITY INTERFERENCES	EA	23
JB 225.2B	INSTALLATION OF CATCH BASINS WITH UTILITY INTERFERENCES AT AN ADDITIONAL DEPTH OF UP TO 3 FEET	EA	13
JB 225.3A	REMOVAL OF CATCH BASINS WITH UTILITY INTERFERENCES	EA	8
JB 300.1	SPECIAL CARE EXCAVATION AND BACKFILLING IN TRENCH LESS THAN 5' DEEP	CY	15
JB 330E	SUPPORT AND PROTECTION OF UTILITY FACILITIES DURING EXCAVATION	LF	8
JB 351	INSTALL AND REMOVE "A" FRAME ON UTILITY POLES	EA	2
JB 400	TEST PITS FOR UTILITY FACILITIES	CY	128
JB 401	TRENCH EXCAVATION FOR ADJUSTMENT OF UTILITY FACILITIES	CY	98

JOINT BID WORKSHEET

ENGINEER'S ESTIMATE OF QUANTITY AND TYPES OF INTERFERENCE

FOR CONSOLIDATED EDISON COMPANY OF NEW YORK

SANDRDHK

RED HOOK COASTAL RESILIENCY

BOROUGH OF BROOKLYN

JOINT BID ITEM NUMBER	DESCRIPTION	UNITS	ESTIMATED QUANTITY
JB 402.2	EXISTING NON-CONCRETE ENCASED CONDUITS PLACED IN FINAL POSITION WITHOUT CONCRETE ENCASEMENT	LF	800
JB 405.1	TRENCH EXCAVATION FOR INSTALLATION OF UTILITY FACILITIES WITH TOTAL DEPTHS LESS THAN FIVE FEET	CY	26
JB 405.2	TRENCH EXCAVATION FOR INSTALLATION OF UTILITY FACILITIES WITH TOTAL DEPTHS EQUAL TO OR GREATER THAN FIVE FEET, REQUIRING	CY	53
JB 406	EXCAVATION FOR UTILITY STRUCTURE	CY	10
JB 450.1	CONSTRUCTION FIELD SUPPORT - SURVEY CREW (TYPE .1)	CRHRS	120
JB 450.2	CONSTRUCTION FIELD SUPPORT - SMALL SIZE CREW (TYPE .2)	CRHRS	120
JB 450.3	CONSTRUCTION FIELD SUPPORT - MEDIUM SIZE CREW (TYPE .3)	CRHRS	120
JB 636 ED	ADJUSTMENT OF UTILITY HARDWARE (30" TO UNDER 34" WIDTH)	EA	17
JB 700	SPECIAL MODIFICATION OF WORK METHODS TO ACCOMMODATE/PROTECT UNDERGROUND FACILITIES WITH LIMITED COVER	CY	14
JB 781	REMOVABLE CURB SIDEWALK PANEL FOR ACCESS TO UTILITY STRUCTURE OPENINGS	EA	1
JB 802A	SPECIAL CARE EXCAVATION AND RESTORATION FOR SIDEWALK WORK	SF	3,636
JB 802B	SPECIAL CARE EXCAVATION AND RESOTRATION FOR CURB WORK	LF	872

CON EDISON JOINT BIDDING SCOPE OF WORK
SUPPORT AND PROTECTION
SANDRDHK
RED HOOK COASTAL RESILIENCY
BOROUGH OF BROOKLYN

JB 100.1 **UTILITIES CROSSING TRENCH FOR CATCH BASIN CHUTE CONNECTION (TYPE .1)** **EA**

At the following locations:

E/S Imlay St., 20' N/N/C Verona St.
E/S Imlay St., 20' S/S/C Verona St.
E/S Imlay St., 20' N/N/C Pioneer St.
N/S Int. of Ferris St. and King St.
W/S Int. Ferris St. and King St.
S/E/C Ferris St. and King St.
On Beard Street (Ste.993+40)

Total Quantity for JB 100.1 = 9

JB 100.2 **UTILITIES CROSSING TRENCH FOR CATCH BASIN CHUTE CONNECTION (TYPE .2)** **EA**

At the following locations:

E/S Imlay St., 20' N/N/C Bowne St.
E/S Imlay St., 20' N/N/C Bowne St.
E/S Int. of Imlay St. and Bowne St.
E/S Ferris St., 15' S/S/C King St.
N/W Int. of Ferris St. and Sullivan Street
S/E Int. of Sullivan St. and Ferris St.
W/S Conover St., 70' N/N/C Reed Street
S/S Reed St., 50' E/E/C Conover St.
W/S Richard St., 60' N/N/C Beard St.
N/S Beard Street (Ste.1004+25)
E/S Dwight St., 120' N/N/C Beard St.
S/S Beard Street (Ste.1006+90)
N/S Beard Street (Ste.1006+90)
On Beard Street (Ste.1008+60)
S/E/C Beard St. and Otsego St.
S/S Halleck St. (Ste.1013+00)
E/S Columbia Street West, 120' N/N/C Halleck St.
E/S Columbia Street West and Columbia St. East
S/W Int. Columbia Street West and Columbia St. East

Total Quantity for JB 100.2 = 20

JB 100.3	**UTILITIES CROSSING TRENCH FOR CATCH BASIN CHUTE CONNECTION (TYPE .3)**	**EA**

At the following locations:

N/E/C Beard St. and Otsego St.

Total Quantity for JB 100.3 = 2

JB 101.1	**UTILITIES CROSSING TRENCH FOR SEWERS OVER 12" TO 24" DIAMETER (TYPE .1)**	**EA**

At the following locations:

On Ferris Street, S/S King St.
On Sullivan St. (Sta.634+25)
S/S Beard Street (Ste.998+40)
N/S Beard Street (Ste.998+80)
N/W Int. Beard St. and Richard St.
On Halleck St. (Ste.1013+50)
E/S Columbia Street West, 50' N/N/C Halleck St.
W/S Columbia Street West
E/S Columbia Street West, 100' N/N/C Halleck St.

Total Quantity for JB 101.1 = 11

JB 101.2	**UTILITIES CROSSING TRENCH FOR SEWERS OVER 12" TO 24" DIAMETER (TYPE .2)**	**EA**

At the following locations:

N/W/C Sullivan St. and Ferris St.
S/E Int. of Sullivan St. and Ferris St.
N/S Dikeman St., 20' E/E/C Ferris St.
N/S Int. Beard St. and Richard St.
On Beard Street (Ste.1008+90)
S/E/C Beard St. and Otsego St.

Total Quantity for JB 101.2 = 7

JB 108.1 **UTILITIES CROSSING TRENCH FOR WATER MAIN UP TO AND INCLUDING 12" DIAMETER (TYPE .1)** **EA**

At the following locations:

N/S Sullivan St. (Sta.634+50)
N/S Sullivan St. (Sta.634+25)
W/S Ferris Street (Sta.874+50)
W/S Ferris Street (Sta.873+90)
N/W Int. Ferris St. and Coffey Street
S/W/C Ferris St. and Coffey Street
W/S Ferris St., 60' S/S/C Coffey Street
W/S Ferris St., 80' S/S/C Coffey Street
W/S Ferris St., 60' N/N/C Van Dyke Street
N/S Beard Street (Ste.1003+90)
N/S Beard Street (Ste.1004+60)

Total Quantity for JB 108.1 = 11

JB 108.2 **UTILITIES CROSSING TRENCH FOR WATER MAIN UP TO AND INCLUDING 12" DIAMETER (TYPE .2)** **EA**

At the following locations:

W/S Int. Ferris St. and King St.
N/W Int. of Ferris St. and Dikeman Street

Total Quantity for JB 108.2 = 4

JB 109.1 **UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 12" AND UP TO 24" DIAMETER (TYPE .1)** **EA**

At the following locations:

On Beard Street (Ste.993+40)
N/S Beard Street (Ste.997+55)
On Halleck St. (Ste.1013+50)
S/S Halleck St. (Ste.1014+75)
N/S Halleck St., W/S Columbia Street West
Int. of Halleck St. and Columbia Street West
E/S Columbia Street West, 50' N/N/C Halleck St.

Total Quantity for JB 109.1 = 8

JB 109.2 **UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 12" AND UP TO 24" DIAMETER (TYPE .2)** **EA**

At the following locations:

N/E Int. Beard St. and Van Brunt St.
N/S Beard Street (Ste.1008+90)
N/E Int. Beard St. and Otsego St.

Total Quantity for JB 109.2 = 3

JB 225.2A **INSTALLATION OF CATCH BASINS WITH UTILITY INTERFERENCES** **EA**

At the following locations:

S/S/C Summit Street, 30' E/E/C Imlay Street
E/S Imlay St., 20' N/N/C Bowne St.
E/S Imlay St., 20' N/N/C Verona St.
E/S Imlay St., 20' S/S/C Verona St.
E/S Imlay St., 20' N/N/C Pioneer St.
W/S Ferris St., 20' S/S/C King Street
S/S King St. 20' E/E/C Ferris St.
W/S Ferris St., 20' N/N/C Sullivan Street
S/S Sullivan St., 20' E/E/C Ferris St.
N/S Dikeman St., 20' E/E/C Ferris St.
S/W/C Ferris St. and Dikeman Street
W/S Ferris St., 20' N/N/C Coffey Street
W/S Ferris St., 20' S/S/C Coffey Street
S/S Coffey St., 15' E/E/C Ferris St.
N/S Beard Street (Ste.1006+90)
S/W/C Beard St. and Otsego St.
N/E/C Beard St. and Otsego St.
S/E/C Beard St. and Otsego St.
S/S Halleck St. (Ste.1013+00)
S/S Halleck St. (Ste.1013+60)
S/S Halleck St. (Ste.1015+00)
E/S Columbia Street West, 120' N/N/C Halleck St.
E/S Columbia Street West and Columbia St. East

Total Quantity for JB 225.2A = 23

JB 225.2B **INSTALLATION OF CATCH BASINS WITH UTILITY INTERFERENCES AT AN ADDITIONAL DEPTH OF UP TO 3 FEET** **EA**

At the following locations:

On Beard Street (Ste.993+40)
E/S Van Brunt St., 60' N/N/C Beard St.
W/S Conover St., 70' N/N/C Reed Street
S/S Reed St., 50' E/E/C Conover St.
W/S Van Brunt St., 50' S/S/C Reed St.
On Beard Street (Ste.997+50)
W/S Richard St., 60' N/N/C Beard St.
N/S Beard St., 16' E/E/C Richard St.
N/S Beard Street (Ste.1004+25)
S/S Beard Street (Ste.1004+25)
E/S Dwight St., 120' N/N/C Beard St.

Total Quantity for JB 225.2B = 13

JB 225.3A **REMOVAL OF CATCH BASINS WITH UTILITY INTERFERENCES** **EA**

At the following locations:

N/S Bowne St., 20' E/E/C Imlay St.
N/E/C Imlay St. and Verona St.
N/E/C Imlay St. and Pioneer St.
S/E/C Ferris St. and King St.
S/E/C Sullivan St. and Ferris St.
N/E/C Beard St. and Van Brunt St.
S/W/C Beard St. and Richard St.
N/E/C Beard St. and Dwight St.

Total Quantity for JB 225.3A = 8

JB 300.1	**SPECIAL CARE EXCAVATION AND BACKFILLING IN TRENCH LESS THAN 5' DEEP**	**CY**

At the following locations:

S/E Int. of Imlay Street and Summit Street
N/S Int. Conover St. and Reed St.
N/S Beard Street (Ste.998+80)
N/S Int. Beard St. and Richard St.
N/S Beard Street (Ste.1002+85)
N/S Beard Street (Ste.1003+75)
N/S Beard Street (Ste.1004+20)
S/E/C Halleck St. and Columbia Street West
S/E Int. Halleck St. and Columbia Street West
W/S Columbia Street West
E/S Columbia Street West, 75' N/N/C Halleck St.

Total Quantity for JB 300.1 = 15

JB 330E	**SUPPORT AND PROTECTION OF UTILITY FACILITIES DURING EXCAVATION**	**LF**

At the following locations:

On Richard St., 30' N/N/C Beard St.

Total Quantity for JB 330E = 8

JB 351	**INSTALL AND REMOVE "A" FRAME ON UTILITY POLES**	**EA**

At the following locations:

N/E/C Sullivan St. and Ferris St.
N/S Beard Street (Ste.998+90)

Total Quantity for JB 351 = 2

JB 400	**TEST PITS FOR UTILITY FACILITIES**	**CY**

At the following locations:

Various

Total Quantity for JB 400 = 128

JB 401 **TRENCH EXCAVATION FOR ADJUSTMENT OF UTILITY FACILITIES** **CY**

At the following locations:

S/S/C Summit Street, 30' E/E/C Imlay Street
S/S Coffey St., 15' E/E/C Ferris St.
E/S Van Brunt St., 60' N/N/C Beard St.
S/S Reed St., 50' E/E/C Conover St.
E/S Dwight St., 120' N/N/C Beard St.
N/S Beard Street (Ste.1006+90)
S/S Halleck St. (Ste.1015+00)

Total Quantity for JB 401 = 98

JB 402.2 **EXISTING NON-CONCRETE ENCASED CONDUITS PLACED IN FINAL POSITION WITHOUT CONCRETE ENCASEMENT** **LF**

At the following locations:

S/S/C Summit Street, 30' E/E/C Imlay Street
S/S Coffey St., 15' E/E/C Ferris St.
E/S Van Brunt St., 60' N/N/C Beard St.
S/S Reed St., 50' E/E/C Conover St.
E/S Dwight St., 120' N/N/C Beard St.
N/S Beard Street (Ste.1006+90)
S/S Halleck St. (Ste.1015+00)

Total Quantity for JB 402.2 = 800

JB 405.1 **TRENCH EXCAVATION FOR INSTALLATION OF UTILITY FACILITIES WITH TOTAL DEPTHS LESS THAN FIVE FEET** **CY**

At the following locations:

W/S Ferris St. and King St. (Sdwk)

Total Quantity for JB 405.1 = 26

JB 405.2 **TRENCH EXCAVATION FOR INSTALLATION OF UTILITY FACILITIES WITH TOTAL DEPTHS EQUAL TO OR GREATER THAN FIVE FEET, REQUIRING SHEETING** **CY**

At the following locations:

W/S Ferris St. and King St. (Sdwk)

Total Quantity for JB 405.2 = 53

JB 406	**EXCAVATION FOR UTILITY STRUCTURE**	**CY**

At the following locations:

W/S Ferris St. and King St. (Sdwk)

Total Quantity for JB 406 = 10

JB 450.1	**CONSTRUCTION FIELD SUPPORT - SURVEY CREW (TYPE .1)**	**CRHRS**

At the following locations:

Various

Total Quantity for JB 450.1 = 120

JB 450.2	**CONSTRUCTION FIELD SUPPORT - SMALL SIZE CREW (TYPE .2)**	**CRHRS**

At the following locations:

Various

Total Quantity for JB 450.2 = 120

JB 450.3	**CONSTRUCTION FIELD SUPPORT - MEDIUM SIZE CREW (TYPE .3)**	**CRHRS**

At the following locations:

Various

Total Quantity for JB 450.3 = 120

JB 636 ED **ADJUSTMENT OF UTILITY HARDWARE (30" TO UNDER 34" WIDTH)** **EA**

At the following locations:

S/E/C Verona St. and Imlay St. (Sdwk)
W/S Ferris St., 55' S/S/C King Street
S/S Int. Van Dyke St. and Ferris St.
S/S Van Dyke Street (Ste.813+75)
S/S Van Dyke Street (Ste.814+75)
S/S Van Dyke Street (Ste.815+70)
S/E/C Beard St. and Van Brunt St.
On Beard Street (Ste.997+60)
S/S Beard Street (Ste.1003+40)
S/S Beard Street (Ste.1004+50)
N/S Beard Street (Ste.1004+60)
E/S Dwight St., 30' N/N/C Beard St.
On Beard Street (Ste.1009+50)
S/E/C Halleck St. and Columbia Street West
E/S Columbia Street West, 75' N/N/C Halleck St.

Total Quantity for JB 636 ED = 17

JB 700 **SPECIAL MODIFICATION OF WORK METHODS TO ACCOMMODATE/PROTECT UNDERGROUND FACILITIES WITH LIMITED COVER** **CY**

At the following locations:

Various

Total Quantity for JB 700 = 14

JB 781	**REMOVABLE CURB SIDEWALK PANEL FOR ACCESS TO UTILITY STRUCTURE OPENINGS**	**EA**

At the following locations:

S/S Halleck St. (Ste.1013+75)

Total Quantity for JB 781 = 1

JB 802A	**SPECIAL CARE EXCAVATION AND RESTORATION FOR SIDEWALK WORK**	**SF**

At the following locations:

S/E/C Verona St. and Imlay St. (Sdwk)
W/S Ferris St., 55' S/S/C King Street
S/E/C Sullivan St. and Ferris St.
N/W/C Ferris St. and Dikeman St.
W/S Ferris Street, N/S of Coffey Street
N/W/C Ferris St. and Coffey Street
W/S Ferris St., S/S of Coffey Street
S/S Int. Van Dyke St. and Ferris St.
S/S Van Dyke Street (Ste.813+75)
S/S Van Dyke Street (Ste.814+75)
S/S Beard Street (Ste.991+25)
S/S Beard Street, E/S Van Brunt St.
S/S of Beard Street
N/S Beard Street (Ste.997+60)
N/S Beard St., 20' E/E/C Richard St.
S/E/C Beard St. and Richard St.
S/S Beard Street (Ste.1003+40)
S/S Beard Street (Ste.1004+50)
N/S Beard Street (Ste.1005+20)
S/S Beard Street
S/S Halleck St. (Ste.1013+75)
S/E/C Halleck St. and Columbia Street West

Total Quantity for JB 802A = 3,636

JB 802B **SPECIAL CARE EXCAVATION AND RESOTRATION FOR CURB WORK** **LF**

At the following locations:

W/S Imlay Street, 225' S/S/C Summit Street
W/S Imlay Street, 230' N/N/C Bowne Street
W/S Imlay Street, 55' N/N/C Bowne Street
N/E/C Imlay St. and Bowne St.
S/W/C Imlay St. and Bowne St.
N/E/C Ferris St. and King St.
N/S Sullivan St. (Sta.634+35)
S/E/C Sullivan St. and Ferris St.
N/W/C Ferris St. and Dikeman St.
W/S Ferris Street (Sta.874+50)
N/W/C Ferris St. and Coffey Street
W/S Ferris St., 80' S/S/C Coffey Street
S/S Van Dyke St., 20' W/W/C Ferris St.
S/S Int. Van Dyke St. and Ferris St.
S/S Van Dyke Street (Ste.812+75)
S/S Van Dyke Street (Ste.813+75)
S/S Van Dyke Street (Ste.814+75)
S/S Van Dyke Street (Ste.815+70)
S/E/C Beard St. and Van Brunt St.
W/S Conover St., 100' N/N/C Reed Street
S/S Reed St., 20' E/E/C Conover St.
S/S Reed St. E/S Conover St.
On Beard Street (Ste.997+60)
N/E/C Beard St. and Richard St.
N/S Beard Street (Ste.1003+90)
S/S Beard Street (Ste.1003+40)
S/S Beard Street (Ste.1004+10)
S/S Beard Street (Ste.1004+10)
N/S Beard Street (Ste.1004+60)
E/S Dwight St., 30' N/N/C Beard St.
S/S Beard Street (Ste.1004+60)
S/W/C Beard St. and Dwight St.
N/S Beard Street, W/S Otsego St.
S/S Beard Street (Ste.1008+90)

S/W/C Beard St. and Otsego St.
S/E/C Beard St. and Otsego St.
S/S Halleck St. (Ste.1013+75)
S/S Halleck St. (Ste.1014+50)
E/S Columbia Street West, 75' N/N/C Halleck St.

Total Quantity for JB 802B = 872

CON EDISON CONTRACT INCLUSION ANALYSIS
CITY BID ITEMS ESTIMATED QUANTITIES
SANDRDHK
RED HOOK COASTAL RESILIENCY
BOROUGH OF BROOKLYN

CITY BID ITEM NUMBER	DESCRIPTION	UNIT	TOTAL QUANTITY
4.02 AB-R	ASPHALTIC CONCRETE WEARING COURSE, 1 1/2" THICK	SY	94
4.02 CB	ASPHALTIC BINDER MIXTURE	TONS	9
4.04 EC	CONCRETE BASE FOR PAVEMENT, 10" THICK, CLASS B-32	CY	10
6.91	REFLECTIVE CRACKING MEMBRANE (18" WIDE)	LF	594

CON EDISON JOINT BIDDING SCOPE OF WORK
CITY BID ITEMS FOR INCLUSION IN
SANDRDHK
RED HOOK COASTAL RESILIENCY
BOROUGH OF BROOKLYN

4.02 AB-R **ASPHALTIC CONCRETE WEARING COURSE, 1 1/2" THICK** **SY**

At the following locations:

S/S/C Summit Street, 30' E/E/C Imlay Street
S/S Coffey St., 15' E/E/C Ferris St.
E/S Van Brunt St., 60' N/N/C Beard St.
S/S Reed St., 50' E/E/C Conover St.
E/S Dwight St., 120' N/N/C Beard St.
N/S Beard Street (Ste.1006+90)
S/S Halleck St. (Ste.1015+00)

Total Quantity for 4.02 AB-R = 94

4.02 CB **ASPHALTIC BINDER MIXTURE** **TONS**

At the following locations:

S/S/C Summit Street, 30' E/E/C Imlay Street
S/S Coffey St., 15' E/E/C Ferris St.
E/S Van Brunt St., 60' N/N/C Beard St.
S/S Reed St., 520' E/E/C Conover St.
E/S Dwight St., 120' N/N/C Beard St.
N/S Beard Street (Ste.1006+90)
S/S Halleck St. (Ste.1015+00)

Total Quantity for 4.02 CB = 9

4.04EC **CONCRETE BASE FOR PAVEMENT, 10 " THICK, CLASS B-32** **CY**

At the following locations:

S/S/C Summit Street, 30' E/E/C Imlay Street
S/S Coffey St., 15' E/E/C Ferris St.
S/S Reed St., 50' E/E/C Conover St.
E/S Dwight St., 120' N/N/C Beard St.
N/S Beard Street (Ste.1006+90)
S/S Halleck St. (Ste.1015+00)

Total Quantity for 4.04 EC = 10

6.91 **REFLECTIVE CRACKING MEMBRANE (18" WIDE)** **LF**

At the following locations:

S/S/C Summit Street, 30' E/E/C Imlay Street
S/S Coffey St., 15' E/E/C Ferris St.
E/S Van Brunt St., 60' N/N/C Beard St.
S/S Reed St., 50' E/E/C Conover St.
E/S Dwight St., 120' N/N/C Beard St.
N/S Beard Street (Ste.1006+90)
S/S Halleck St. (Ste.1015+00)

Total Quantity for 6.91 = 594

JOINT BID SPECIALTY ITEMS WORKSHEET

ENGINEER'S ESTIMATE OF QUANTITY AND TYPES OF INTERFERENCE

FOR CONSOLIDATED EDISON COMPANY OF NEW YORK

SANDRDHK

RED HOOK COASTAL RESILIENCY

BOROUGH OF BROOKLYN

JOINT BID ITEM NUMBER	DESCRIPTION	UNITS	ESTIMATED QUANTITY
JB 500	REMOVAL OF ABANDONED UTILITY CONDUITS (NON-CONCRETE ENCASED)	LF	480
JB 501	REMOVAL OF ABANDONED MASONRY FOR UTILITY FACILITIES	CY	10
JB 117	UTILITIES CROSSING PILES FOR FLOOD WALL OR FLOOD GATE.	EA	9
JB 118	UTILITIES CROSSING THROUGH FOR FLOOD WALL OR FLOOD GATE REINFORCED CONCRETE FOUNDATIONOF PILE CAP	EA	9
JB 638 N	INSTALLATION OF FIELD CONSTRUCTED UTILITIES STRUCTURES.	CY	6
JB 603E.1	INSTALL UTILITY CONDUITS PLACED IN FINAL POSITION WITHOUT CONCRETE ENCASEMENT	LF	180
JB 603E.2	INSTALL UTILITY CONDUITS PLACED IN FINAL POSITION WITH CONCRETE ENCASEMENT	LF	720
51.42S1SO	INCREMENTAL COST OF STANDARD CATCH BASIN TYPE 3 WITH CURB PIECE IN LIEU OF STANDARD CATCH BASIN TYPE 1	EA	11

CON EDISON JOINT BIDDING SCOPE OF WORK
SUPPORT AND PROTECTION - SPECIALTY ITEMS
SANDRDHK
RED HOOK COASTAL RESILIENCY
BOROUGH OF BROOKLYN

JB 500 **REMOVAL OF ABANDONED UTILITY CONDUITS (NON-CONCRETE ENCASED)** **LF**

At the following locations:

S/W Int. Imlay Street and Summit Street
N/S Int. of Imlay St. and Bowne St.
W/S Ferris St.,Bet. Sullivan St. to King Street

SPECIALTY ITEM

Total Quantity for JB 500 = 480

JB 501 **REMOVAL OF ABANDONED MASONRY FOR UTILITY FACILITIES** **CY**

At the following locations:

N/W/C Ferris St. and King St.
W/S Ferris St., 55' S/S/C King Street
S/E/C Beard St. and Van Brunt St.

SPECIALTY ITEM

Total Quantity for JB 501 = 10

JB 638N **INSTALLATION OF FIELD CONSTRUCTED UTILITIES STRUCTURES** **LF**

At the following locations:

W/S Ferris St. & King Street

SPECIALTY ITEM

JB

Total Quantity for JB 638 N = 6

JB 117	**UTILITIES CROSSING PILES FOR FLOOD WALL OR FLOOD GATE**	**EA**

At the following locations:

Various

Total Quantity for JB 117 = 9

JB 118	**UTILITIES CROSSING THROUGH FOR FLOOD WALL OR FLOOD GATE REINFORCED**	**EA**

At the following locations:

Various

Total Quantity for JB 117 = 9

JB 603E.1	**INSTALL UTILITY CONDUITS PLACED IN FINAL POSITION WITHOUT CONCRETE ENCASEMENT**	**LF**

At the following locations:

W/S Ferris St. and King St. (Sdwk)

Total Quantity for JB 603E.1 = 180

JB 603E.2	**INSTALL UTILITY CONDUITS PLACED IN FINAL POSITION WITH CONCRETE ENCASEMENT**	**LF**

At the following locations:

W/S Ferris St. and King St. (Sdwk)

Total Quantity for JB 603E.2 = 720

CON EDISON CITY BID SPECIALTY ITEMS SCOPE OF WORK
SUPPORT AND PROTECTION
SANDRDHK
RED HOOK COASTAL RESILIENCY
BOROUGH OF BROOKLYN

51.42S1SO **INCREMENTAL COST OF STANDARD CATCH BASIN TYPE 3 WITH CURB PIECE IN LIEU OF STANDARD CATCH BASIN TYPE 1** **EA**

At the following locations:

N/S/C Summit St and E/E/C Imlay St.
S/N/C Bowne St and N/N/C Imlay St.
W/E/C Imlay St and N/N/C Bowne St.
E/S Imlay St and Pioneer St.
N/S/C Coffey St and E/E/C Ferris St.
W/E/C Imlay St and S/S/C Verona St.
W/E/C Imlay St and N/N/C Verona St.
N/S/C Reed St and E/E/C Conover St.
E/S Dwight St and Beard St.
S/N/C Beard St and E/E/C Dwight St.
E/S Otsego St and N/N/C Halleck St.

Total Quantity for 51.42S1SO = 11

Support & Protection
Project No. SANDRDHK
Red Hook Coastal Resiliency (RHCR) Atlantic Basin and Beard Street
Borough: Brooklyn

JB Item Number	Description	Unit of Measure	Estimated Quantity
100.1	Utilities Crossing Trench For Catch Basin Chute Connection (type .1)	EA	9
101.1	Utilities Crossing Trench For Sewers Over 12" To 24" Diameter (type .1)	EA	3
102.1	Utilities Crossing Trench For Sewers Over 24" To 36" Diameter (Type .1)	EA	1
108.1	Utilities Crossing Trench For Water Main Up To And Including 12" Diameter (type .1)	EA	6
109.1	Utilities Crossing Trench For Water Main Over 12" And Up To 24" Diameter (type .1)	EA	6
200	Extra Depth Excavation Of Catch Basin Chute Connection Pipes	LF	100
225.1A	Installation And Removal Of Catch Basins With Utility Interferences	EA	5
300.1	Special Care Excavation And Backfilling In Trench Less Than 5' Deep	CY	710
400	Test Pits For Utility Facilities	CY	120
636 ED	Adjustment of Utility Hardware (30" To Under 34" Width)	EA	10
636EA	Adjustment Of Utility Hardware (Under 7" Width)	EA	25
636EB	Adjustment Of Utility Hardware (7" to Under 14" Width)	EA	20
636EC	Adjustment Of Utility Hardware (14" to Under 30" Width)	EA	15
802A	Special Care Excavation And Restoration For Sidewalk Work	SF	30000
802B	Special Care Excavation And Restoration For Curb Work	LF	590

JB Item No.	Description
100.1	**Utilities Crossing Trench For Catch Basin Chute Connection (type .1)** 1 @ Beard St & Dwdight St 1 @ Clinton Wharf & Ferris St 2 @ Imlay St & Bowne St 1 @ Imlay St & PioneerSt 2 @ Imlay St & Summit St 2 @ Reed St & Van Brunt St **Quantity - 9 EA**
101.1	**Utilities Crossing Trench For Sewers Over 12" To 24" Diameter (type .1)** 1 @ Beard St & Richards St 1 @ Clinton Wharf & Ferris St 1 @ Reed St & Conover St **Quantity - 3 EA**
102.1	**Utilities Crossing Trench For Sewers Over 24" To 36" Diameter (Type .1)** 1 @ Sullivan St & Dead End **Quantity - 1 EA**
108.1	**Utilities Crossing Trench For Water Main Up To And Including 12" Diameter (type .1)** 1 @ Beard St & Ostego St 1 @ Ferris St & Van Dyke St 1 @ Reed St & Conover St 1 @ Reed St Van Brunt St 1 @ Sullivan St & Dead End 1 @ Sullivan St & Ferris St **Quantity - 6 EA**
109.1	**Utilities Crossing Trench For Water Main Over 12" And Up To 24" Diameter (type .1)** 2 @ Beard St & Conover St 1 @ Beard St & Dwight St 2 @ Beard St & Richards St 1 @ Reed St & Conover St **Quantity - 6 EA**
200	**Extra Depth Excavation Of Catch Basin Chute Connection Pipes** 100 @ AS ENCOUNTERED AND REQUIRED BY NATIONAL GRID **Quantity - 100 LF**
225.1A	**Installation And Removal Of Catch Basins With Utility Interferences** 5 @ AS ENCOUNTERED AND REQUIRED BY NATIONAL GRID **Quantity - 5 EA**
300.1	**Special Care Excavation And Backfilling In Trench Less Than 5' Deep** 710 @ AS ENCOUNTERED AND REQUIRED BY NATIONAL GRID **Quantity - 710 CY**
400	**Test Pits For Utility Facilities**

120 @ AS ENCOUNTERED AND REQUIRED BY NATIONAL GRID
Quantity - 120 CY

Adjustment of Utility Hardware (30" To Under 34" Width)

636 ED

10 @ AS ENCOUNTERED AND REQUIRED BY NATIONAL GRID
Quantity - 10 EA

Adjustment Of Utility Hardware (Under 7" Width)

636EA

25 @ AS ENCOUNTERED AND REQUIRED BY NATIONAL GRID
Quantity - 25 EA

Adjustment Of Utility Hardware (7" to Under 14" Width)

636EB

20 @ AS ENCOUNTERED AND REQUIRED BY NATIONAL GRID
Quantity - 20 EA

Adjustment Of Utility Hardware (14" to Under 30" Width)

636EC

15 @ AS ENCOUNTERED AND REQUIRED BY NATIONAL GRID
Quantity - 15 EA

Special Care Excavation And Restoration For Sidewalk Work

802A

30000 @ AS ENCOUNTERED AND REQUIRED BY NATIONAL GRID
Quantity - 30000 SF

Special Care Excavation And Restoration For Curb Work

802B

590 @ AS ENCOUNTERED AND REQUIRED BY NATIONAL GRID
Quantity - 590 LF

Support & Protection
Project No. SANDRDHK
Red Hook Coastal Resiliency (RHCR) Atlantic Basin and Beard Street
Borough: Brooklyn

JB Specialty Item Number	Description	Unit of Measure	Estimated Quantity
502	Removal of Abandoned Gas Facilities with Possible Coal Tar Wrap. All Sizes	LF	1500
710.1	Removal of Abandoned Utility Steel/Cast Iron/Plastic Pipes,up to & Including 12" Diameter Pipe	LF	3750

JB Specialty Item
Scope of Work

502 **Removal of Abandoned Gas Facilities with Possible Coal Tar Wrap. All Sizes.**

1500 @ AS ENCOUNTERED AND REQUIRED BY NATIONAL GRID
Quantity - 1500 LF

710.1 **Removal of Abandoned Utility Steel/Cast Iron/Plastic Pipes, up to and Including 12" Diameter Pipe.**

3750 @ AS ENCOUNTERED AND REQUIRED BY NATIONAL GRID
Quantity - 3750 LF

SANDRDHK
Red Hook Coastal Resiliency
Borough of Brooklyn
Schedule JB: Scope of Work for Joint Bid Items

JB ITEM	DESCRIPTION	UNITS	ESTIMATED QUANTITY
JB 100.1	UTILITIES CROSSING TRENCH FOR CATCH BASIN CHUTE CONNECTION AND/OR TEST PIT (TYPE .1)	EACH	15
JB 100.2	UTILITIES CROSSING TRENCH FOR CATCH BASIN CHUTE CONNECTION AND/OR TEST PIT (TYPE .2)	EACH	16
JB 100.3	UTILITIES CROSSING TRENCH FOR CATCH BASIN CHUTE CONNECTION AND/OR TEST PIT (TYPE .3)	EACH	2
JB 101.1	UTILITIES CROSSING TRENCH FOR SEWERS OVER 12" TO 24" DIAMETER (TYPE .1)	EACH	6
JB 101.2	UTILITIES CROSSING TRENCH FOR SEWERS OVER 12" TO 24" DIAMETER (TYPE .2)	EACH	8
JB 101.3	UTILITIES CROSSING TRENCH FOR SEWERS OVER 12" TO 24" DIAMETER (TYPE .3)	EACH	1
JB 102.1	UTILITIES CROSSING TRENCH FOR SEWERS OVER 24" TO 36" DIAMETER (TYPE .1)	EACH	1
JB 102.2	UTILITIES CROSSING TRENCH FOR SEWERS OVER 24" TO 36" DIAMETER (TYPE .2)	EACH	2
JB 108.1	UTILITIES CROSSING TRENCH FOR WATER MAIN UP TO AND INCLUDING 12" DIAMETER (TYPE .1)	EACH	10
JB 108.2	UTILITIES CROSSING TRENCH FOR WATER MAIN UP TO AND INCLUDING 12" DIAMETER (TYPE .2)	EACH	8
JB 108.3	UTILITIES CROSSING TRENCH FOR WATER MAIN UP TO AND INCLUDING 12" DIAMETER (TYPE .3)	EACH	1
JB 109.1	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 12" AND UP TO 24" DIAMETER (TYPE .1)	EACH	14
JB 109.2	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 12" AND UP TO 24" DIAMETER (TYPE .2)	EACH	6
JB 225.2A	INSTALLATION OF CATCH BASINS WITH UTILITY INTERFERENCES	EACH	10
JB 225.3A	REMOVAL OF CATCH BASINS WITH UTILITY INTERFERENCES	EACH	10
JB 300.1	SPECIAL CARE EXCAVATION AND BACKFILLING IN TRENCH LESS THAN 5' DEEP	C.Y.	29
JB 300.2	SPECIAL CARE EXCAVATION AND BACKFILLING IN TRENCH GREATER THAN 5' DEEP	C.Y.	15

SANDRDHK
Red Hook Coastal Resiliency
Borough of Brooklyn
Schedule JB: Scope of Work for Joint Bid Items

JB 303	FURNISH, DELIVER AND INSTALL TYPE 3/8 CLEAN SAND BACKFILL	C.Y.	20
JB 330T1	SUPPORT AND PROTECTION OF COMMUNICATION UTILITY FACILITIES DURING EXCAVATION OF CITY TRENCH WHEN PARALLELING COMMUNICATION FACILITIES LIE COMPLETELY IN THE PROPOSED CITY TRENCH	L.F.	940
JB 330T2.1	COMMUNICATIONS FACILITY OPERATOR(S) REQUESTS THE TRENCH BE WIDENED	L.F.	25
JB 330T2.2	COMMUNICATION FACILITY OPERATOR(S) REQUESTS THE TRENCH / SHEETING BE MODIFIED	L.F.	30
JB 351	INSTALL AND REMOVE "A" FRAME ON UTILITY POLES	EACH	2
JB 400	TEST PITS FOR UTILITY FACILITIES	C.Y.	50
JB 401	TRENCH EXCAVATION FOR ADJUSTMENT OF UTILITY FACILITIES	C.Y.	1358
JB 402T.2A	EXISTING NON-CONCRETE ENCASED TELECOMMUNICATION CONDUITS PLACED IN FINAL POSITION WITH CONCRETE ENCASEMENT	L.F.	8915
JB 402T.V2A	EXISTING VACANT NON-CONCRETE ENCASED TELECOMMUNICATION CONDUITS PLACED IN FINAL POSITION WITH CONCRETE ENCASEMENT	L.F.	2535
JB 406	EXCAVATION FOR UTILITY STRUCTURE	C.Y.	162
JB 450.3	CONSTRUCTION FIELD SUPPORT - MEDIUM SIZE CREW (TYPE .3)	CREW/HR	100
JB 636 EE	ADJUSTMENT OF UTILITY HARDWARE (34" TO UNDER 41" WIDTH)	EACH	11
JB 700	SPECIAL MODIFICATION OF WORK METHODS TO ACCOMMODATE/PROTECT UNDERGROUND FACILITIES WITH LIMITED COVER	C.Y.	25
JB 802A	SPECIAL CARE EXCAVATION AND RESTORATION FOR SIDEWALK WORK	S.F.	1960
JB 802B	SPECIAL CARE EXCAVATION AND RESOTRATION FOR CURB WORK	L.F.	110
JB 803.2	LINE CUT BY PNEUMATIC TOOLS IN LIEU OF SAW CUT ASSOCIATED WITH ROADWAY REMOVAL OPERATIONS (LINE CUT ANY COMBINATION OF ASPHALT AND CONCRETE ROADWAY)	L.F.	200

SANDRDHK
Red Hook Coastal Resiliency
Borough of Brooklyn
Schedule JB: Scope of Work for Joint Bid Items

JB 100.1

UTILITIES CROSSING TRENCH FOR CATCH BASIN CHUTE CONNECTION AND/OR TEST PIT (TYPE .1)

@ THE FOLLOWING LOCATIONS

	QTY(EACH)
N SIDE OF HAMILTON AVENUE BTWN VAN BRUNT STREET & IMLAY STREET	2
SEC OF INT OF FERRIS STREET & KING STREET	2
NEC OF INT OF FERRIS STREET & KING STREET	1
NWC OF INT OF FERRIS STREET & WOLCOTT STREET	1
NEC OF INT OF FERRIS STREET & WOLCOTT STREET	1
SEC INT OF VAN BRUNT STREET & BEARD STREET	1
N SIDE OF BEARD STREET BETWEEN VAN BRUNT STREET & RICHARDS STREET	1
N SIDE OF BEARD STREET BETWEEN RICHARDS STREET & DWIGHT STREET	1
S SIDE OF BEARD STREET BETWEEN RICHARDS STREET & DWIGHT STREET	1
SEC OF INT OF COLUMBIA STREET WEST & COLUMBIA STREET EAST	1
AS ENCOUNTERED & DIRECTED BY THE VERIZON FIELD REPRESENTATIVE	3

JB 100.1 **TOTAL** **15**

JB 100.2

UTILITIES CROSSING TRENCH FOR CATCH BASIN CHUTE CONNECTION AND/OR TEST PIT (TYPE .2)

@ THE FOLLOWING LOCATIONS

	QTY(EACH)
NEC OF INT OF FERRIS STREET & KING STREET	1
NEC OF INT OF BEARD STREET & VAN BRUNT STREET	1
SEC OF INT OF BEARD STREET & VAN BRUNT STREET	1
W SIDE OF VAN BRUNT STREET BETWEEN BEARD STREET & VAN DYKE STREET	2
N SIDE OF BEARD STREET BETWEEN VAN BRUNT STREET & RICHARDS STREET	1
N SIDE OF BEARD STREET BETWEEN RICHARDS STREET & DWIGHT STREET	1
S SIDE OF BEARD STREET BETWEEN RICHARDS STREET & DWIGHT STREET	1
NEC INT OF BEARD STREET & OTSEGO STREET	1
NWC INT OF BEARD STREET & OTSEGO STREET	1
W SIDE OF COLUMBIA STREET WEST BTWN HALLECK STREET & COLUMBIA STREET EAST	1
SEC OF INT OF COURT STREET & CREAMER STREET	1
NEC OF INT OF COURT STREET & CREAMER STREET	1
AS ENCOUNTERED & DIRECTED BY THE VERIZON FIELD REPRESENTATIVE	3

JB 100.2 **TOTAL** **16**

JB 100.3

UTILITIES CROSSING TRENCH FOR CATCH BASIN CHUTE CONNECTION AND/OR TEST PIT (TYPE .3)

@ THE FOLLOWING LOCATIONS

	QTY(EACH)
NEC OF INTERSECTION OF FERRIS STREET & KING STREET	1
AS ENCOUNTERED & DIRECTED BY THE VERIZON FIELD REPRESENTATIVE	1

JB 100.3 **TOTAL** **2**

SANDRDHK
Red Hook Coastal Resiliency
Borough of Brooklyn
Schedule JB: Scope of Work for Joint Bid Items

JB 101.1

UTILITIES CROSSING TRENCH FOR SEWERS OVER 12" TO 24" DIAMETER (TYPE .1)

@ THE FOLLOWING LOCATIONS

	QTY(EACH)
SEC OF INT OF BEARD STREET & VAN BRUNT STREET	2
N SIDE INT OF HALLECK STREET & COLUMBIA STREET WEST	1
NEC OF INT OF HALLECK STREET & COLUMBIA STREET WEST	2
AS ENCOUNTERED & DIRECTED BY THE VERIZON FIELD REPRESENTATIVE	1
JB 101.1 TOTAL	**6**

JB 101.2

UTILITIES CROSSING TRENCH FOR SEWERS OVER 12" TO 24" DIAMETER (TYPE .2)

@ THE FOLLOWING LOCATIONS

	QTY(EACH)
SEC OF INT OF BEARD STREET & VAN BRUNT STREET	2
SWC OF INT OF BEARD STREET & VAN BRUNT STREET	2
NEC INT OF HALLECK STREET & OSTEGO STREET	1
SEC OF INT OF HALLECK STREET & COLUMBIA STREET WEST	1
AS ENCOUNTERED & DIRECTED BY THE VERIZON FIELD REPRESENTATIVE	2
JB 101.2 TOTAL	**8**

JB 101.3

UTILITIES CROSSING TRENCH FOR SEWERS OVER 12" TO 24" DIAMETER (TYPE .3)

@ THE FOLLOWING LOCATIONS

	QTY(EACH)
AS ENCOUNTERED & DIRECTED BY THE VERIZON FIELD REPRESENTATIVE	1
JB 101.3 TOTAL	**1**

JB 102.1

UTILITIES CROSSING TRENCH FOR SEWERS OVER 24" TO 36" DIAMETER (TYPE .1)

@ THE FOLLOWING LOCATIONS

	QTY(EACH)
AS ENCOUNTERED & DIRECTED BY THE VERIZON FIELD REPRESENTATIVE	1
JB 102.1 TOTAL	**1**

JB 102.2

UTILITIES CROSSING TRENCH FOR SEWERS OVER 24" TO 36" DIAMETER (TYPE .2)

@ THE FOLLOWING LOCATIONS

	QTY(EACH)
SEC OF INT OF BEARD STREET & VAN BRUNT STREET	1
AS ENCOUNTERED & DIRECTED BY THE VERIZON FIELD REPRESENTATIVE	1
JB 102.2 TOTAL	**2**

SANDRDHK
Red Hook Coastal Resiliency
Borough of Brooklyn
Schedule JB: Scope of Work for Joint Bid Items

JB 108.1

UTILITIES CROSSING TRENCH FOR WATER MAIN UP TO AND INCLUDING 12" DIAMETER (TYPE .1)

@ THE FOLLOWING LOCATIONS

	QTY(EACH)
NWC INT OF SUMMIT STREET & VAN BRUNT STREET	2
SEC OF INT OF FERRIS STREET & KING STREET	1
NWC OF INT OF FERRIS STREET & WOLCOTT STREET	1
NWC INT OF BEARD STREET & RICHARDS STREET	1
N SIDE OF BEARD STREET BTWN RICHARDS STREET & DWIGHT STREET	1
NEC INT OF COLUMBIA STREET WEST & HALLECK STREET	1
WEST SIDE OF COLUMBIA STREET EAST BETWEEN COLUMBIA STREET WEST & DEAD END	1
AS ENCOUNTERED & DIRECTED BY THE VERIZON FIELD REPRESENTATIVE	2
JB 108.1 TOTAL	**10**

JB 108.2

UTILITIES CROSSING TRENCH FOR WATER MAIN UP TO AND INCLUDING 12" DIAMETER (TYPE .2)

@ THE FOLLOWING LOCATIONS

	QTY(EACH)
SWC INT OF VAN BRUNT STREET & BEARD STREET	1
NWC OF INT OF VAN BRUNT STREET & BEARD STREET	2
NWC INT OF BEARD STREET & RICHARDS STREET	1
N SIDE OF BEARD STREET BTWN RICHARDS STREET & DWIGHT STREET	1
N SIDE INT OF BEARD STREET & OTSEGO STREET	1
AS ENCOUNTERED & DIRECTED BY THE VERIZON FIELD REPRESENTATIVE	2
JB 108.2 TOTAL	**8**

JB 108.3

UTILITIES CROSSING TRENCH FOR WATER MAIN UP TO AND INCLUDING 12" DIAMETER (TYPE .3)

@ THE FOLLOWING LOCATIONS

	QTY(EACH)
AS ENCOUNTERED & DIRECTED BY THE VERIZON FIELD REPRESENTATIVE	1
JB 108.3 TOTAL	**1**

JB 109.1

UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 12" AND UP TO 24" DIAMETER (TYPE .1)

@ THE FOLLOWING LOCATIONS

	QTY(EACH)
N SIDE OF BEARD STREET BETWEEN VAN BRUNT STREET & RICHARDS STREET	1
N SIDE OF BEARD STREET BETWEEN RICHARDS STREET & DWIGHT STREET	6
N SIDE INT OF COLUMBIA STREET WEST & HALLECK STREET	2
NWC INT OF COLUMBIA STREET WEST & HALLECK STREET	2
AS ENCOUNTERED & DIRECTED BY THE VERIZON FIELD REPRESENTATIVE	3
JB 109.1 TOTAL	**14**

SANDRDHK
Red Hook Coastal Resiliency
Borough of Brooklyn
Schedule JB: Scope of Work for Joint Bid Items

JB 109.2

UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 12" AND UP TO 24" DIAMETER (TYPE .2)

@ THE FOLLOWING LOCATIONS

	QTY(EACH)
NWC OF INT OF VAN BRUNT STREET & BEARD STREET	2
N SIDE OF BEARD STREET BETWEEN RICHARDS STREET & DWIGHT STREET	1
NWC INT OF HALLECK STREET & COLUMBIA STREET WEST	1
SEC INT OF HALLECK STREET & COLUMBIA STREET WEST	1
AS ENCOUNTERED & DIRECTED BY THE VERIZON FIELD REPRESENTATIVE	1
JB 109.2 TOTAL	**6**

JB 225.2A

INSTALLATION OF CATCH BASINS WITH UTILITY INTERFERENCES

@ THE FOLLOWING LOCATIONS

	QTY(EACH)
SWC OF INT OF SUMMIT STREET & IMLAY STREET	1
NEC OF INT OF CONOVER STREET & KING STREET	1
NEC OF INT OF FERRIS STREET & KING STREET	1
NWC OF INT OF FERRIS STREET & WOLCOTT STREET	1
W SIDE OF VAN BRUNT STREET BETWEEN BEARD STREET & VAN DYKE STREET	1
S SIDE OF BEARD STREET BETWEEN RICHARDS STREET & DWIGHT STREET	1
NWC OF INT OF BEARD STREET & OTSEGO STREET	1
NEC OF INT OF BEARD STREET & OTSEGO STREET	1
AS ENCOUNTERED & DIRECTED BY THE VERIZON FIELD REPRESENTATIVE	2
JB 225.2A TOTAL	**10**

JB 225.3A

REMOVAL OF CATCH BASINS WITH UTILITY INTERFERENCES

@ THE FOLLOWING LOCATIONS

	QTY(EACH)
NEC OF INT OF CONOVER STREET & KING STREET	1
SEC OF INT OF FERRIS STREET & KING STREET	1
SWC OF INT OF VAN BRUNT STREET & BEARD STREET	1
NWC OF INT OF VAN BRUNT STREET & BEARD STREET	1
NWC OF INT OF HALLECK STREET & COLUMBIA STREET WEST	2
NEC OF INT OF HALLECK STREET & COLUMBIA STREET WEST	1
E SIDE OF COLUMBIA STREET WEST BTWN COLUMBIA STREET EAST & HALLECK STREET	1
AS ENCOUNTERED & DIRECTED BY THE VERIZON FIELD REPRESENTATIVE	2
JB 225.3A TOTAL	**10**

SANDRDHK
Red Hook Coastal Resiliency
Borough of Brooklyn
Schedule JB: Scope of Work for Joint Bid Items

JB 300.1

SPECIAL CARE EXCAVATION AND BACKFILLING IN TRENCH LESS THAN 5' DEEP

@ THE FOLLOWING LOCATIONS

	QTY(C.Y.)
N SIDE OF BEARD STREET BTWN RICHARDS STREET & DWIGHT STREET	23
AS ENCOUNTERED & DIRECTED BY THE VERIZON FIELD REPRESENTATIVE	6
JB 300.1 TOTAL	**29**

JB 300.2

SPECIAL CARE EXCAVATION AND BACKFILLING IN TRENCH GREATER THAN 5' DEEP

@ THE FOLLOWING LOCATIONS

	QTY(C.Y.)
AS ENCOUNTERED & DIRECTED BY THE VERIZON FIELD REPRESENTATIVE	15
JB 300.2 TOTAL	**15**

JB 303

FURNISH, DELIVER AND INSTALL TYPE 3/8 CLEAN SAND BACKFILL

@ THE FOLLOWING LOCATIONS

	QTY(C.Y.)
AS ENCOUNTERED & DIRECTED BY THE VERIZON FIELD REPRESENTATIVE	20
JB 303 TOTAL	**20**

JB 330T1

SUPPORT AND PROTECTION OF COMMUNICATION UTILITY FACILITIES DURING EXCAVATION OF CITY TRENCH WHEN PARALLELING COMMUNICATION FACILITIES LIE COMPLETELY IN THE PROPOSED CITY TRENCH

@ THE FOLLOWING LOCATIONS

	QTY(L.F.)
NEC OF INT OF SUMMIT STREET & IMLAY STREET	20
E SIDE OF FERRIS STREET BTWN SULLIVAN STREET & KING STREET	85
N SIDE OF WOLCOTT STREET BTWN FERRIS STREET & DEAD END	50
N SIDE OF BEARD STREET BTWN RICHARDS STREET & DWIGHT STREET	200
N SIDE OF BEARD STREET BTWN OTSEGO STREET & DWIGHT STREET	300
NWC INT OF HALLECK STREET & COLMUBIA STREET WEST	80
E SIDE OF COURT STREET BTWN CREAMER STREET & LORRAINE STREET	15
AS ENCOUNTERED & DIRECTED BY THE VERIZON FIELD REPRESENTATIVE	190
JB 330T1 TOTAL	**940**

SANDRDHK
Red Hook Coastal Resiliency
Borough of Brooklyn
Schedule JB: Scope of Work for Joint Bid Items

JB 330T2.1

COMMUNICATIONS FACILITY OPERATOR(S) REQUESTS THE TRENCH BE WIDENED

@ THE FOLLOWING LOCATIONS

	QTY(L.F.)
AS ENCOUNTERED & DIRECTED BY THE VERIZON FIELD REPRESENTATIVE	25
JB 330T2.1 TOTAL	**25**

JB 330T2.2

COMMUNICATION FACILITY OPERATOR(S) REQUESTS THE TRENCH / SHEETING BE MODIFIED

@ THE FOLLOWING LOCATIONS

	QTY(L.F.)
N SIDE OF BEARD STREET BTWN RICHARDS STREET & VAN BRUNT STREET	10
N SIDE OF BEARD STREET BTWN RICHARDS STREET & DWIGHT STREET	10
AS ENCOUNTERED & DIRECTED BY THE VERIZON FIELD REPRESENTATIVE	10
JB 330T2.2 TOTAL	**30**

JB 351

INSTALL AND REMOVE "A" FRAME ON UTILITY POLES

@ THE FOLLOWING LOCATIONS

	QTY(EACH)
AS ENCOUNTERED & DIRECTED BY THE VERIZON FIELD REPRESENTATIVE	2
JB 351 TOTAL	**2**

JB 400

TEST PITS FOR UTILITY FACILITIES

@ THE FOLLOWING LOCATIONS

	QTY(C.Y.)
AS ENCOUNTERED & DIRECTED BY THE VERIZON FIELD REPRESENTATIVE	50
JB 400 TOTAL	**50**

JB 401

TRENCH EXCAVATION FOR ADJUSTMENT OF UTILITY FACILITIES

@ THE FOLLOWING LOCATIONS

	QTY(C.Y.)
N SIDE OF SUMMIT STREET BTWN IMLAY STREET & VAN BRUNT STREET	84
W SIDE OF INT OF SUMMIT STREET & IMLAY STREET	45
NEC INT OF SUMMIT STREET & IMLAY STREET	45
SWC INT OF SUMMIT STREET & IMLAY STREET	45
NEC OF INT OF CONOVER STREET & KING STREET	23
NEC OF INT OF FERRIS STREET & KING STREET	42
N SIDE OF BEARD STREET BTWN RICHARDS STREET & VAN BRUNT STREET	38
SEC OF INT OF BEARD STREET & RICHARDS STREET	45
S SIDE OF BEARD STREET BTWN RICHARDS STREET & DWIGHT STREET	45
N SIDE OF BEARD STREET BTWN RICHARDS STREET & DWIGHT STREET	125

SANDRDHK
Red Hook Coastal Resiliency
Borough of Brooklyn
Schedule JB: Scope of Work for Joint Bid Items

N SIDE OF HALLECK STREET BETWEEN COLUMBIA STREET WEST & OTSEGO STREET		294
NWC OF INT OF HALLECK ST & COLUMBIA STREET WEST		45
N SIDE INT OF HALLECK STREET & COLUMBIA STREET WEST		93
EAST SIDE OF COLUMBIA STREET WEST BETWEEN COLUMBIA STREET EAST & HALLECK STREET		30
WEST SIDE OF COLUMBIA STREET EAST BETWEEN COLUMBIA STREET WEST & DEAD END		30
NEC OF INT OF COURT STREET & CREAMER STREET		59
AS ENCOUNTERED & DIRECTED BY THE VERIZON FIELD REPRESENTATIVE		270
JB 401	**TOTAL**	**1358**

JB 402T.2A

EXISTING NON-CONCRETE ENCASED TELECOMMUNICATION CONDUITS PLACED IN FINAL POSITION WITH CONCRETE ENCASEMENT

@ THE FOLLOWING LOCATIONS

	QTY(L.F.)
N SIDE OF SUMMIT STREET BTWN IMLAY STREET & VAN BRUNT STREET	300
W SIDE OF INT OF SUMMIT STREET & IMLAY STREET	80
NEC INT OF SUMMIT STREET & IMLAY STREET	40
SWC INT OF SUMMIT STREET & IMLAY STREET	40
NEC OF INT OF CONOVER STREET & KING STREET	120
NEC OF INT OF FERRIS STREET & KING STREET	640
N SIDE OF BEARD STREET BTWN RICHARDS STREET & VAN BRUNT STREET	400
SEC OF INT OF BEARD STREET & RICHARDS STREET	80
S SIDE OF BEARD STREET BTWN RICHARDS STREET & DWIGHT STREET	40
N SIDE OF BEARD STREET BTWN RICHARDS STREET & DWIGHT STREET	2160
N SIDE OF HALLECK STREET BETWEEN COLUMBIA STREET WEST & OTSEGO STREET	2375
NWC OF INT OF HALLECK ST & COLUMBIA STREET WEST	40
N SIDE INT OF HALLECK STREET & COLUMBIA STREET WEST	400
EAST SIDE OF COLUMBIA STREET WEST BETWEEN COLUMBIA STREET EAST & HALLECK STREET	80
WEST SIDE OF COLUMBIA STREET EAST BETWEEN COLUMBIA STREET WEST & DEAD END	40
NEC OF INT OF COURT STREET & CREAMER STREET	300
AS ENCOUNTERED & DIRECTED BY THE VERIZON FIELD REPRESENTATIVE	1780
JB 402T.2A **TOTAL**	**8915**

JB 402T.V2A

EXISTING VACANT NON-CONCRETE ENCASED TELECOMMUNICATION CONDUITS PLACED IN FINAL POSITION WITH CONCRETE ENCASEMENT

@ THE FOLLOWING LOCATIONS

	QTY(L.F.)
NEC OF INT OF CONOVER STREET & KING STREET	40
NEC OF INT OF FERRIS STREET & KING STREET	320
N SIDE OF BEARD STREET BTWN RICHARDS STREET & VAN BRUNT STREET	80
N SIDE OF BEARD STREET BTWN RICHARDS STREET & DWIGHT STREET	810
N SIDE OF HALLECK STREET BETWEEN COLUMBIA STREET WEST & OTSEGO STREET	475
N SIDE INT OF HALLECK STREET & COLUMBIA STREET WEST	200
NEC OF INT OF COURT STREET & CREAMER STREET	100
AS ENCOUNTERED & DIRECTED BY THE VERIZON FIELD REPRESENTATIVE	510
JB 402T.V2A **TOTAL**	**2535**

SANDRDHK
Red Hook Coastal Resiliency
Borough of Brooklyn
Schedule JB: Scope of Work for Joint Bid Items

JB 406

EXCAVATION FOR UTILITY STRUCTURE

@ THE FOLLOWING LOCATIONS

	QTY(C.Y.)
NEC OF INT OF FERRIS STREET & KING STREET	52
N SIDE OF BEARD STREET BTWN RICHARDS STREET & DWIGHT STREET	30
NEC INT OF HALLECK STREET & OTSEGO STREET	50
AS ENCOUNTERED & DIRECTED BY THE VERIZON FIELD REPRESENTATIVE	30
JB 406 TOTAL	**162**

JB 450.3

CONSTRUCTION FIELD SUPPORT - MEDIUM SIZE CREW (TYPE .3)

@ THE FOLLOWING LOCATIONS

	QTY(CREW/HR)
AS ENCOUNTERED & DIRECTED BY THE VERIZON FIELD REPRESENTATIVE	100
JB 450.3 TOTAL	**100**

JB 636 EE

ADJUSTMENT OF UTILITY HARDWARE (34" TO UNDER 41" WIDTH)

@ THE FOLLOWING LOCATIONS

	QTY(EACH)
NEC INT OF KING STREET & CONOVER STREET	1
NEC INT OF KING STREET & FERRIS STREET	1
NWC OF INT OF FERRIS STREET & WOLCOTT STREET	1
N SIDE OF BEARD STREET BETWEEN VAN BRUNT STREET & RICHARDS STREET	1
N SIDE OF BEARD STREET BTWN DWIGHT STREET & RICHARDS STREET	2
NEC INT OF HALLECK STREET & OTSEGO STREET	1
NWC INT OF HALLECK STREET & COLUMBIA STREET WEST	1
NEC INT OF HALLECK STREET & COLUMBIA STREET WEST	1
AS ENCOUNTERED & DIRECTED BY THE VERIZON FIELD REPRESENTATIVE	2
JB 636 EE TOTAL	**11**

JB 700

SPECIAL MODIFICATION OF WORK METHODS TO ACCOMMODATE/PROTECT UNDERGROUND FACILITIES WITH LIMITED COVER

@ THE FOLLOWING LOCATIONS

	QTY(C.Y.)
AS ENCOUNTERED & DIRECTED BY THE VERIZON FIELD REPRESENTATIVE	25
JB 700 TOTAL	**25**

JB 802A

SPECIAL CARE EXCAVATION AND RESTORATION FOR SIDEWALK WORK

@ THE FOLLOWING LOCATIONS

	QTY(S.F.)
NWC INT OF VAN BRUNT STREET & SUMMIT STREET	250
NWC INT OF IMLAY STREET & SUMMIT STREET	100

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Borough of Brooklyn
Schedule JB: Scope of Work for Joint Bid Items

N SIDE INT OF IMLAY STREET & SUMMIT STREET		100
NEC INT OF KING STREET & CONOVER STREET		80
SEC INT OF FERRIS STREET & KING STREET		75
SWC INT OF BEARD STREET & VAN BRUNT STREET		300
N SIDE OF BEARD STREET BTWN VAN BRUNT STREET & RICHARDS STREET		75
SEC INT OF BEARD STREET & RICHARDS STREET		100
N SIDE OF BEARD STREET BTWN RICHARDS STREET & DWIGHT STREET		100
S SIDE OF BEARD STREET BTWN RICHARDS STREET & DWIGHT STREET		220
NEC INT OF BEARD STREET & OTSEGO STREET		85
NWC INT OF HALLECK STREET & COLUMBIA STREET WEST		85
AS ENCOUNTERED & DIRECTED BY THE VERIZON FIELD REPRESENTATIVE		390
JB 802A	**TOTAL**	**1960**

JB 802B

SPECIAL CARE EXCAVATION AND RESOTRATION FOR CURB WORK

@ THE FOLLOWING LOCATIONS

	QTY(L.F.)
NWC INT OF VAN BRUNT STREET & SUMMIT STREET	10
NWC INT OF IMLAY STREET & SUMMIT STREET	7
N SIDE INT OF IMLAY STREET & SUMMIT STREET	7
NEC INT OF KING STREET & CONOVER STREET	10
SEC INT OF FERRIS STREET & KING STREET	5
SWC INT OF BEARD STREET & VAN BRUNT STREET	16
N SIDE OF BEARD STREET BTWN VAN BRUNT STREET & RICHARDS STREET	5
SEC INT OF BEARD STREET & RICHARDS STREET	5
N SIDE OF BEARD STREET BTWN RICHARDS STREET & DWIGHT STREET	10
S SIDE OF BEARD STREET BTWN RICHARDS STREET & DWIGHT STREET	10
NWC INT OF HALLECK STREET & COLUMBIA STREET WEST	5
AS ENCOUNTERED & DIRECTED BY THE VERIZON FIELD REPRESENTATIVE	20
JB 802B **TOTAL**	**110**

JB 803.2

LINE CUT BY PNEUMATIC TOOLS IN LIEU OF SAW CUT ASSOCIATED WITH ROADWAY REMOVAL OPERATIONS (LINE CUT ANY COMBINATION OF ASPHALT AND CONCRETE ROADWAY)

@ THE FOLLOWING LOCATIONS

	QTY(L.F.)
AS ENCOUNTERED & DIRECTED BY THE VERIZON FIELD REPRESENTATIVE	200
JB 803.2 **TOTAL**	**200**

SANDRDHK
Red Hook Coastal Resiliency
Borough of Brooklyn
Bid Item Accomodation Estimate

ITEM	DESCRIPTION	UNITS	ESTIMATED QUANTITY
4.02 AG	ASPHALTIC CONCRETE WEARING COURSE, 2" THICK	QTY(SY)	29
4.0 2 CB	ASPHALTIC BINDER MIXTURE	QTY(TON)	5
4.0 4 EC	CONCRETE BASE FOR PAVEMENT, 10" THICK, CLASS B-32	QTY(CY)	7

SANDRDHK
Red Hook Coastal Resiliency
Borough of Brooklyn
Bid Item Accommodation Scope

4.02 AG
ASPHALTIC CONCRETE WEARING COURSE, 3" THICK
@ THE FOLLOWING LOCATIONS

		QTY(SY)
NEC OF INT OF CONOVER STREET & KING STREET		12
WEST SIDE OF COLUMBIA STREET EAST BETWEEN COLUMBIA STREET WEST & DEAD END		12
AS ENCOUNTERED & DIRECTED BY THE VERIZON FIELD REPRESENTATIVE		5
4.0 2 AG	**TOTAL**	**29**

4.0 2 CB
ASPHALTIC BINDER MIXTURE
@ THE FOLLOWING LOCATIONS

		QTY(TON)
NEC OF INT OF CONOVER STREET & KING STREET		2
WEST SIDE OF COLUMBIA STREET EAST BETWEEN COLUMBIA STREET WEST & DEAD END		2
AS ENCOUNTERED & DIRECTED BY THE VERIZON FIELD REPRESENTATIVE		1
4.0 2 CB	**TOTAL**	**5**

4.0 4 EC

CONCRETE BASE FOR PAVEMENT, 10 " THICK, CLASS B-**3 2**
@ THE FOLLOWING LOCATIONS

		QTY(CY)
NEC OF INT OF CONOVER STREET & KING STREET		3
WEST SIDE OF COLUMBIA STREET EAST BETWEEN COLUMBIA STREET WEST & DEAD END		3
AS ENCOUNTERED & DIRECTED BY THE VERIZON FIELD REPRESENTATIVE		1
4.04EC	**TOTAL**	**7**

SANDRDHK
Red Hook Coastal Resiliency
Borough of Brooklyn
Engineer's Estimate for Specialty Items Quantity

JB ITEM	DESCRIPTION	UNITS	ESTIMATED QUANTITY
JB 500	REMOVAL OF ABANDONED UTILITY CONDUITS (NON-CONCRETE ENCASED)	L.F.	534
JB 638 NT	INSTALLATION OF FIELD CONSTRUCTED TELEPHONE UTILITY STRUCTURE	C.Y.	33
JB 638 RT	BREAK OUT AND REMOVE UTILITY STRUCTURE CONTAINING ACTIVE CABLES	C.Y.	33

SANDRDHK
Red Hook Coastal Resiliency
Borough of Brooklyn
Engineer's Estimate for Specialty Items Quantity

JB 500

REMOVAL OF ABANDONED UTILITY CONDUITS (NON-CONCRETE ENCASED)

@ THE FOLLOWING LOCATIONS

	QTY(L.F.)
NEC INT OF SUMMIT STREET & IMLAY STREET	120
SWC INT OF SUMMIT STREET & IMLAY STREET	40
W SIDE IMLAY STREET BTWN BOWNE STREET & IMLAY STREET	80
NWC OF INT OF FERRIS STREET & KING STREET	75
S SIDE INT OF VAN BRUNT STREET & BEARD STREET	41
W SIDE OF VAN BRUNT STREET BETWEEN BEARD STREET & REED STREET	20
S SIDE OF BEARD STREET BTWN RICHARDS STREET & DWIGHT STREET	48
AS ENCOUNTERED & DIRECTED BY THE VERIZON FIELD REPRESENTATIVE	110
JB 500 TOTAL	**534**

JB 638 NT

INSTALLATION OF FIELD CONSTRUCTED TELEPHONE UTILITY STRUCTURE

@ THE FOLLOWING LOCATIONS

	QTY(C.Y.)
NEC INT OF KING STREET & FERRIS STREET	9
N SIDE OF BEARD STREET BTWN RICHARDS STREET & DWIGHT STREET	5
NEC INT OF HALLECK STREET & OTSEGO STREET	12
AS ENCOUNTERED & DIRECTED BY THE VERIZON FIELD REPRESENTATIVE	7
JB 638 NT TOTAL	**33**

JB 638 RT

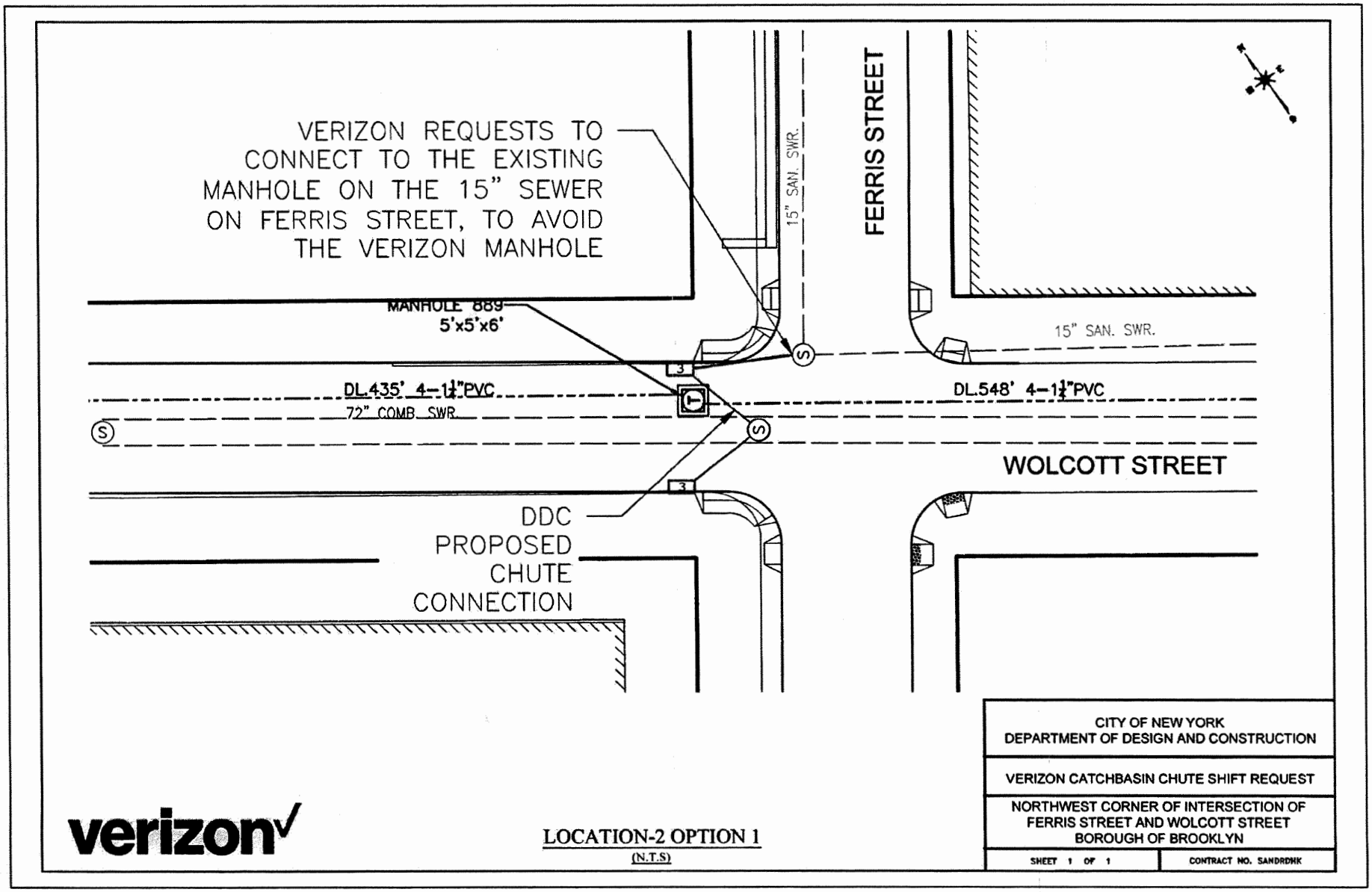
BREAK OUT AND REMOVE UTILITY STRUCTURE CONTAINING ACTIVE CABLES

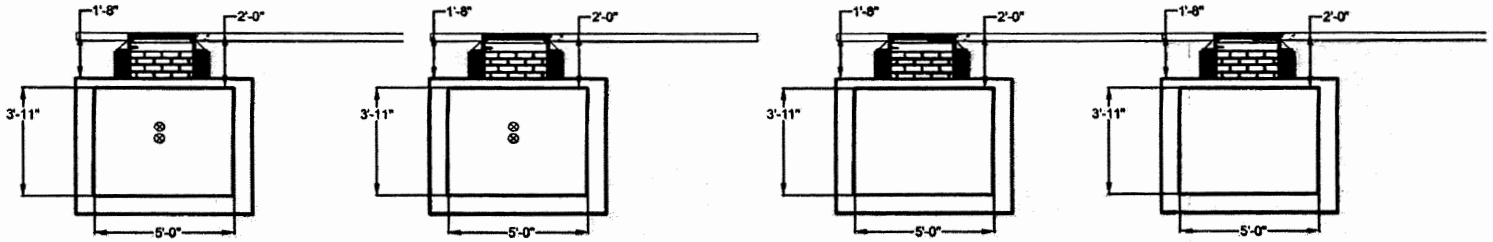
@ THE FOLLOWING LOCATIONS

	QTY(C.Y.)
NEC INT OF KING STREET & FERRIS STREET	9
N SIDE OF BEARD STREET BTWN RICHARDS STREET & DWIGHT STREET	5
NEC INT OF HALLECK STREET & OTSEGO STREET	12
AS ENCOUNTERED & DIRECTED BY THE VERIZON FIELD REPRESENTATIVE	7
JB 638 RT TOTAL	**33**

END OF JB-PAGES SECTION E
(NO FURTHER TEXT ON THIS PAGE)

SECTION F. PRIVATE UTILITIES TEST PITS AND SKETCHES


VERIZON REQUESTS TO CONNECT TO THE EXISTING MANHOLE ON THE 15" SEWER ON FERRIS STREET, TO AVOID THE VERIZON MANHOLE
15" SAN. SWR.
FERRIS STREET
MANHOLE 889
5'x5'x6'
15" SAN. SWR.
DL.435' 4-1¼"PVC
72" COMB. SWR.
DL.548' 4-1¼"PVC
WOLCOTT STREET
DDC PROPOSED CHUTE CONNECTION
CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
VERIZON CATCHBASIN CHUTE SHIFT REQUEST
NORTHWEST CORNER OF INTERSECTION OF FERRIS STREET AND WOLCOTT STREET
BOROUGH OF BROOKLYN
SHEET 1 OF 1
CONTRACT NO. SANDRDHK
verizon
LOCATION-2 OPTION 1
(N.T.S)

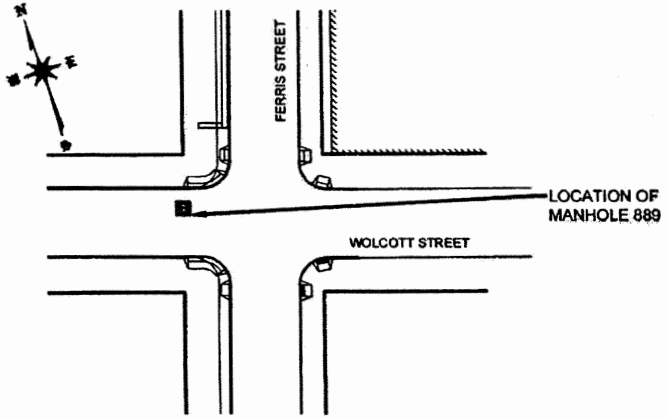


MANHOLE 889 SURVEY
NORTH WALL

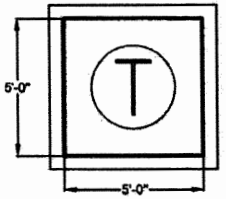
MANHOLE 889 SURVEY
SOUTH WALL

MANHOLE 889 SURVEY
EAST WALL

MANHOLE 889 SURVEY
WEST WALL



MANHOLE 889 LOCATION



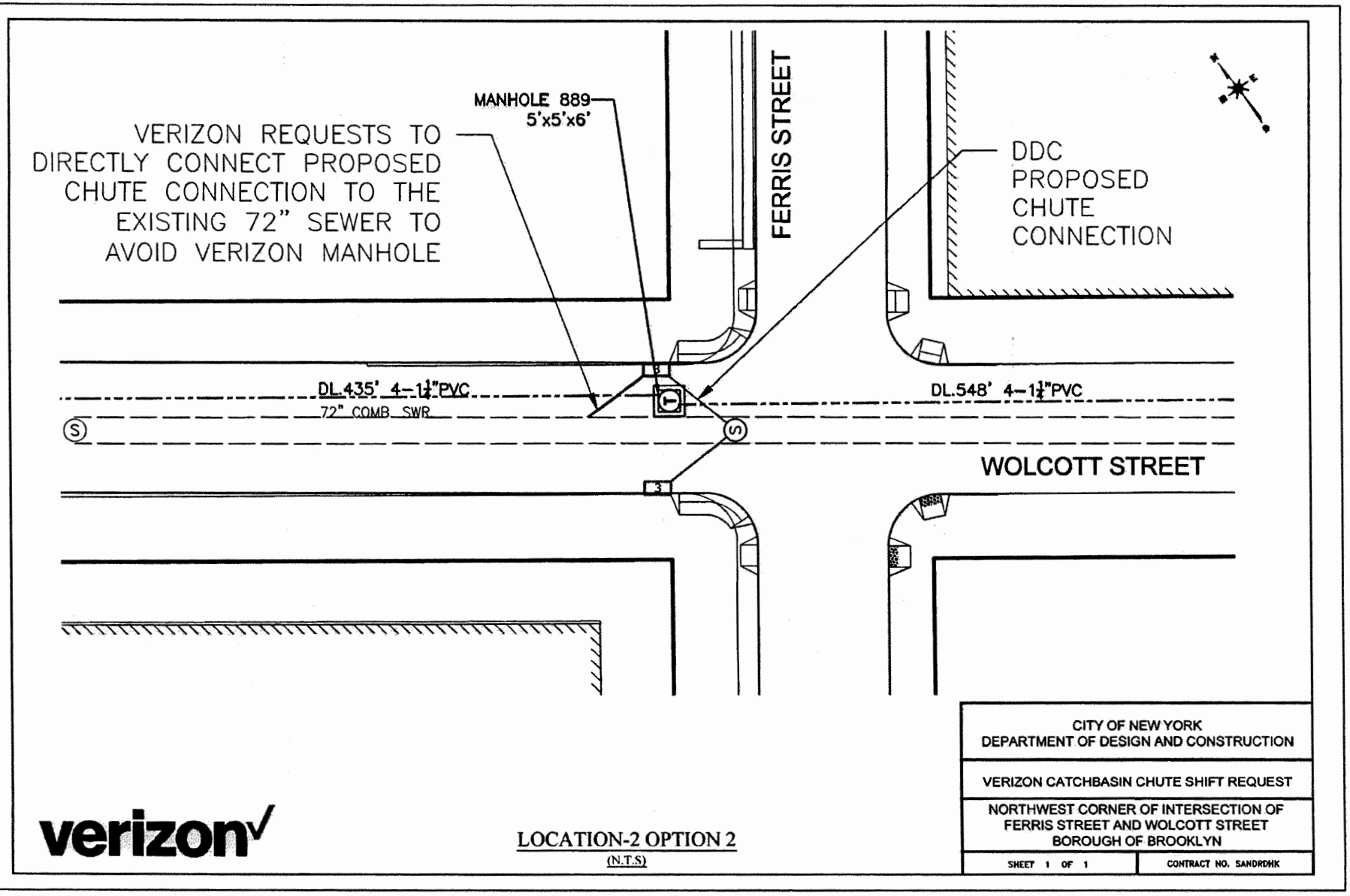
MANHOLE 889 DIMENSIONS

NOTE: MANHOLE DIMENSIONS PER MH 889 SURVEY PERFORMED BY VERIZON 9/2023.

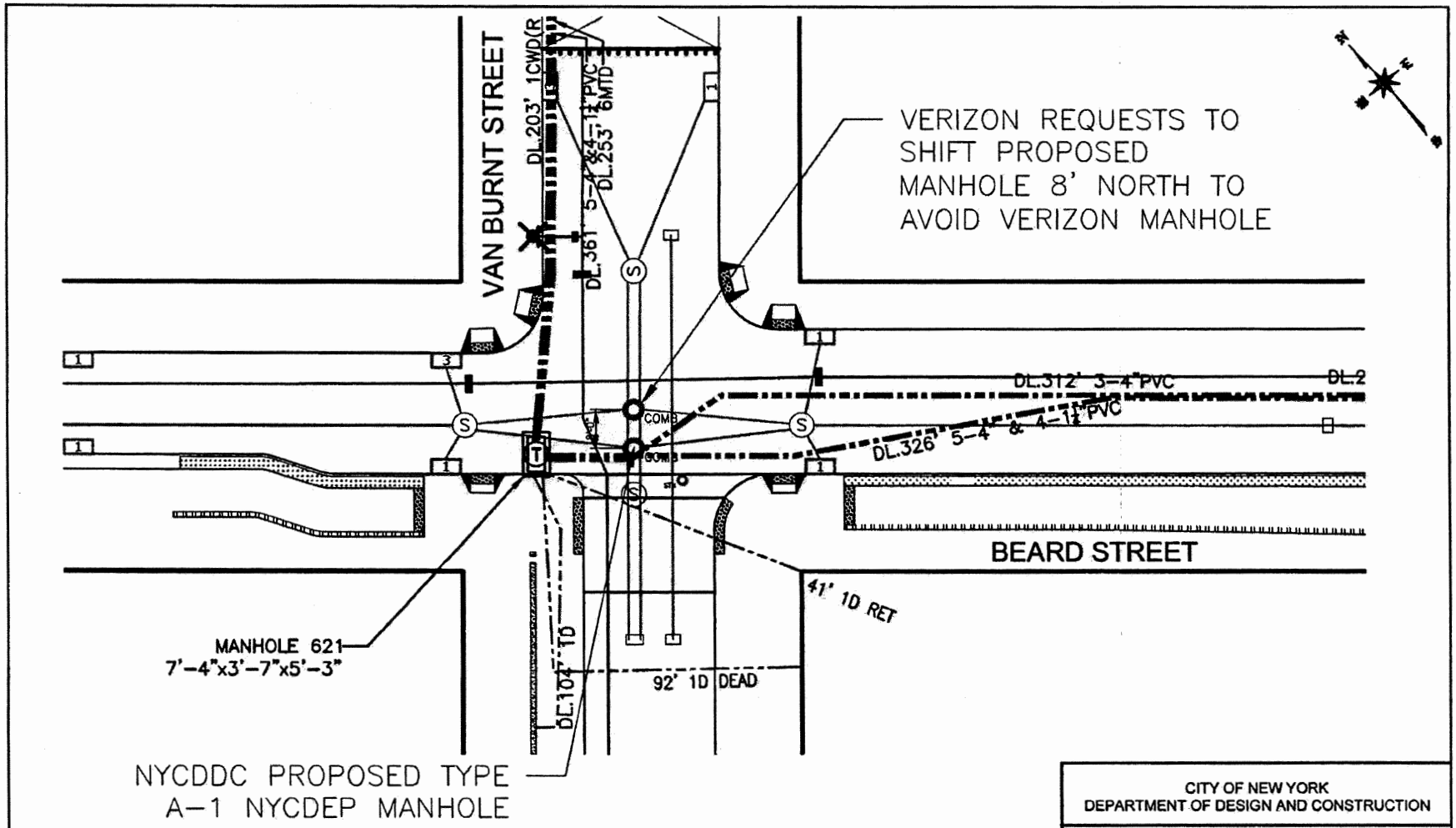
LOCATION NO.2
INTERSECTION OF WOLCOTT STREET & FERRIS STREET
SCALE: NTS

VERIZON
MANHOLE 889 SURVEY
SANDRDHK – BOROUGH OF BROOKLYN

JB-F3


VERIZON REQUESTS TO DIRECTLY CONNECT PROPOSED CHUTE CONNECTION TO THE EXISTING 72" SEWER TO AVOID VERIZON MANHOLE
MANHOLE 889
5'x5'x6'
FERRIS STREET
DDC PROPOSED CHUTE CONNECTION
DL.435' 4-1½"PVC
72" COMB. SWR
DL.548' 4-1½"PVC
WOLCOTT STREET
verizon
LOCATION-2 OPTION 2
(N.T.S)
CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
VERIZON CATCHBASIN CHUTE SHIFT REQUEST
NORTHWEST CORNER OF INTERSECTION OF FERRIS STREET AND WOLCOTT STREET
BOROUGH OF BROOKLYN
SHEET 1 OF 1
CONTRACT NO. SANDRDHK

JB-F4

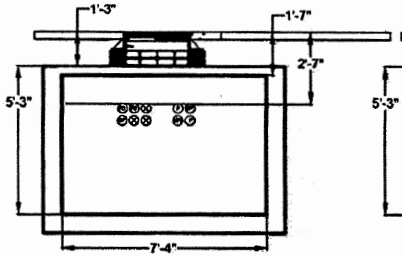


verizon

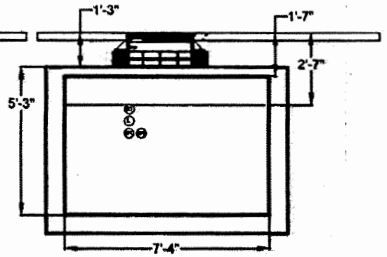
LOCATION-3
(N.T.S)

CITY OF NEW YORK DEPARTMENT OF DESIGN AND CONSTRUCTION
VERIZON SEWER SHIFT REQUEST
SOUTH SIDE OF INTERSECTION OF BEARD STREET AND VAN BURNT STREET BOROUGH OF BROOKLYN
SHEET 1 OF 1 | CONTRACT NO. SANDRDHK

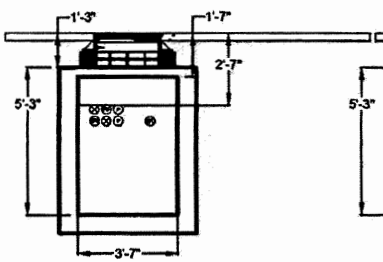
JB-F5



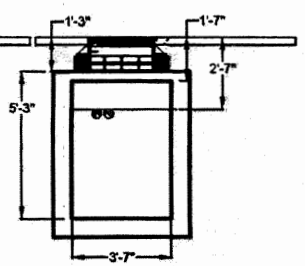
MANHOLE 621 SURVEY
NORTH WALL



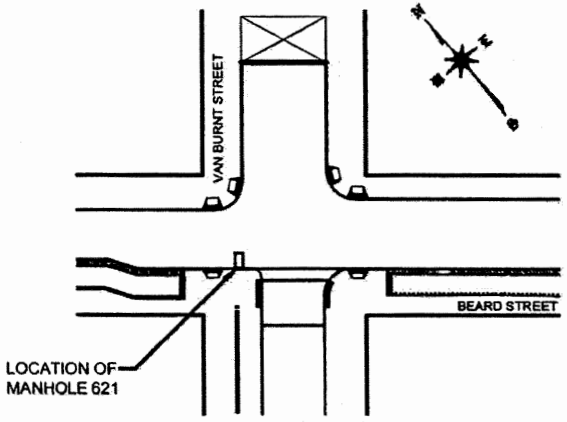
MANHOLE 621 SURVEY
SOUTH WALL



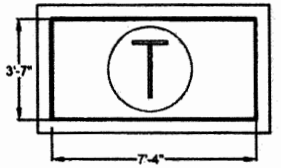
MANHOLE 621 SURVEY
EAST WALL



MANHOLE 621 SURVEY
WEST WALL



MANHOLE 621 LOCATION



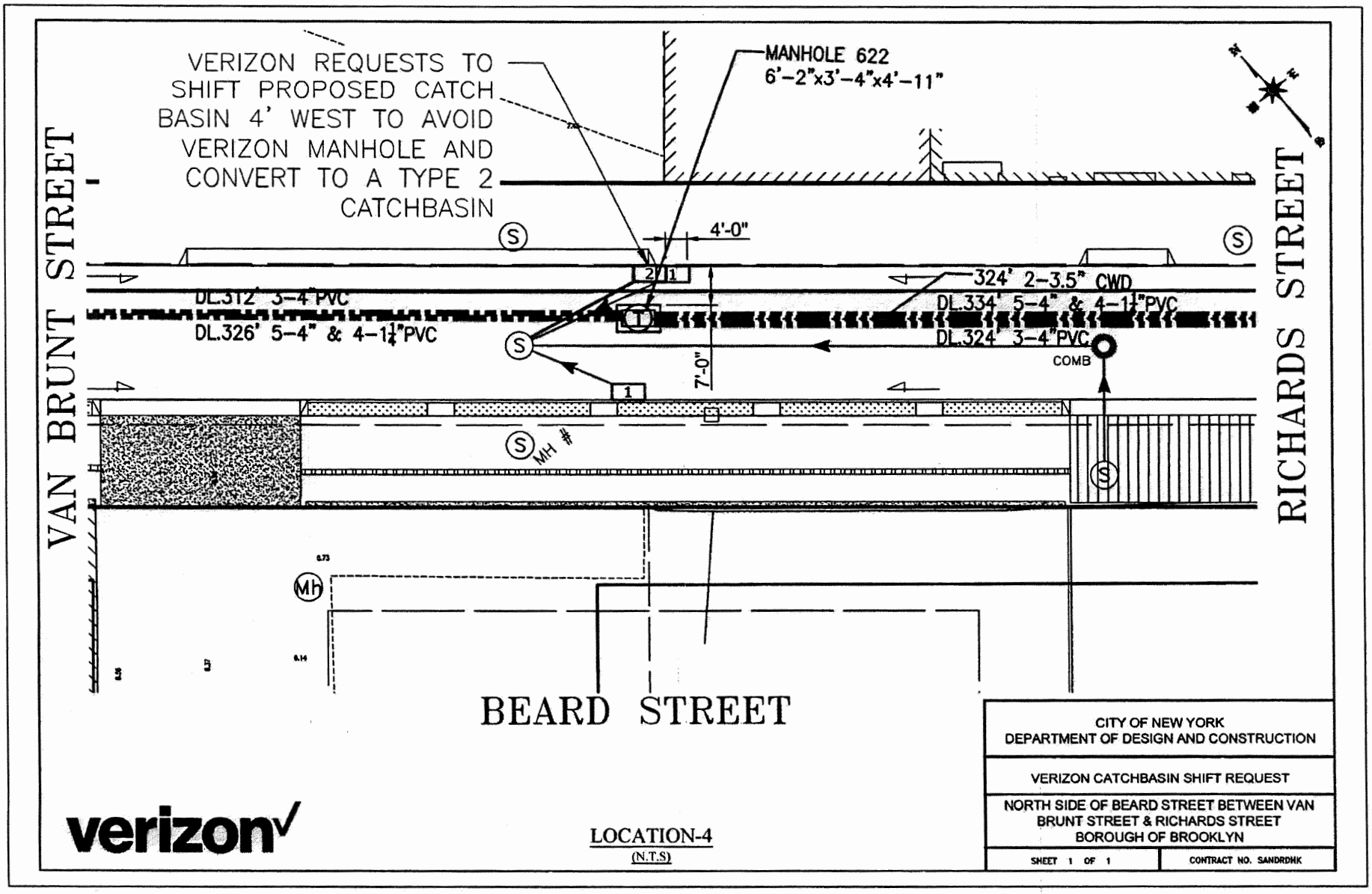
MANHOLE 621 DIMENSIONS

NOTE: MANHOLE DIMENSIONS PER MH 621 SURVEY PERFORMED BY VERIZON 9/2023.

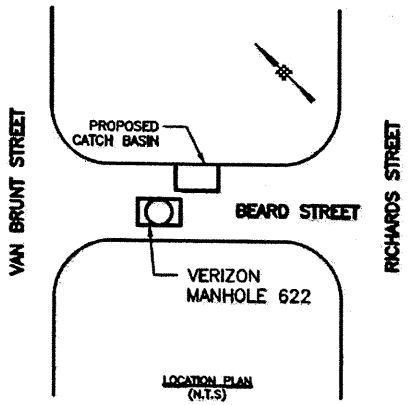
JB-F6

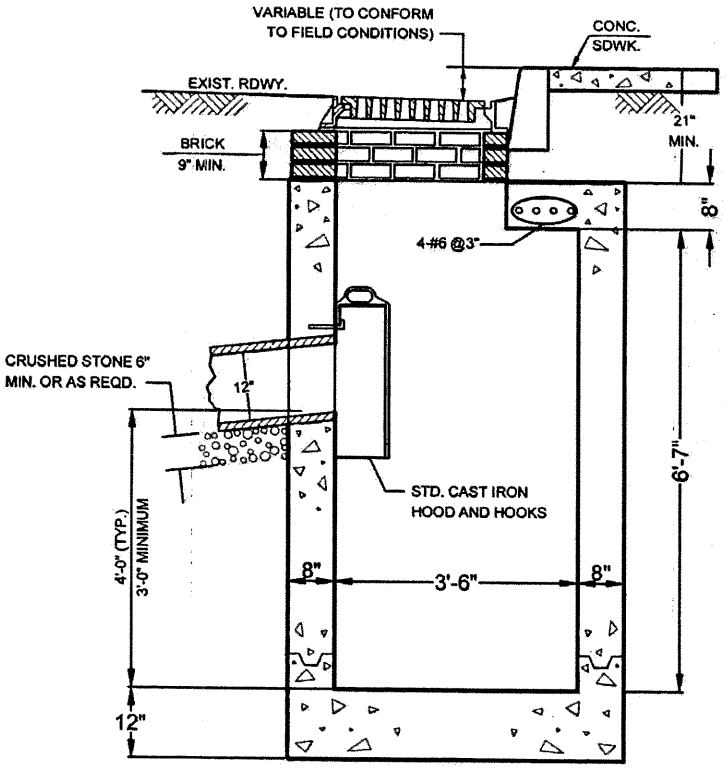
LOCATION NO.3
INTERSECTION OF BEARD & VAN BRUNT STREET
SCALE: NTS

VERIZON
MANHOLE 621 SURVEY
SANDRDHK – BOROUGH OF BROOKLYN


VERIZON REQUESTS TO SHIFT PROPOSED CATCH BASIN 4' WEST TO AVOID VERIZON MANHOLE AND CONVERT TO A TYPE 2 CATCHBASIN
MANHOLE 622
6'-2"x3'-4"x4'-11"
VAN BRUNT STREET
RICHARDS STREET
BEARD STREET
4'-0"
7'-0"
DL.312' 3-4" PVC
DL.326' 5-4" & 4-1¼"PVC
324' 2-3.5" CWD
DL.334' 5-4" & 4-1¼"PVC
DL.324' 3-4"PVC
COMB
MH #
Mh
verizon
LOCATION-4
(N.T.S)
CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
VERIZON CATCHBASIN SHIFT REQUEST
NORTH SIDE OF BEARD STREET BETWEEN VAN BRUNT STREET & RICHARDS STREET
BOROUGH OF BROOKLYN
SHEET 1 OF 1
CONTRACT NO. SANDRDHK

JB-F7





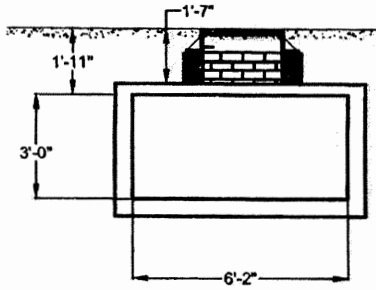
NOTE: REFER TO VERIZON MANHOLE SURVEY 622

verizon

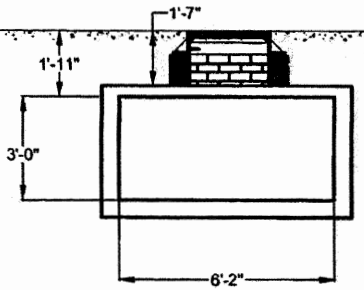
LOCATION-4
(N.T.S)

CITY OF NEW YORK DEPARTMENT OF DESIGN AND CONSTRUCTION	
VERIZON TYPE-2 CATCH BASIN REQUEST	
NORTH SIDE OF BEARD STREET BTWN RICHARDS STREET & VAN BRUNT STREET BOROUGH OF BROOKLYN	
SHEET 1 OF 1	CONTRACT NO. SANDRDHK

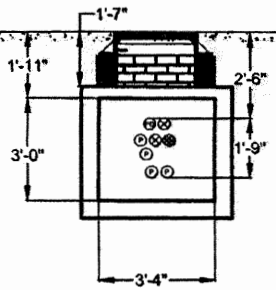
JB-F8



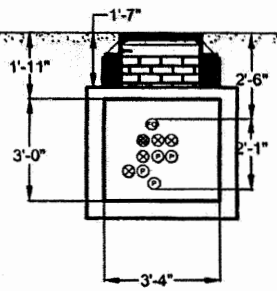
MANHOLE 622 SURVEY
NORTH WALL



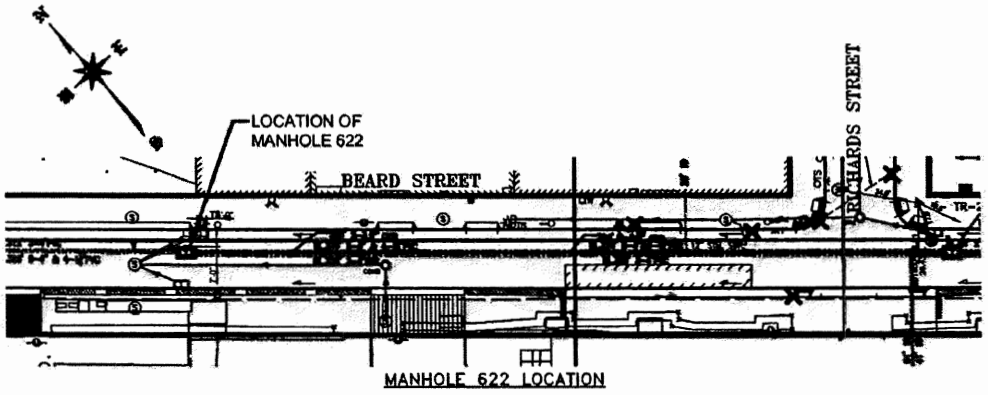
MANHOLE 622 SURVEY
SOUTH WALL



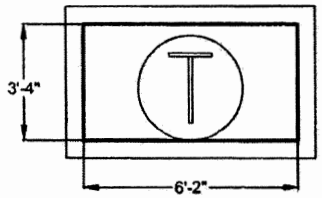
MANHOLE 622 SURVEY
EAST WALL



MANHOLE 622 SURVEY
WEST WALL



MANHOLE 622 LOCATION



MANHOLE 622 DIMENSIONS

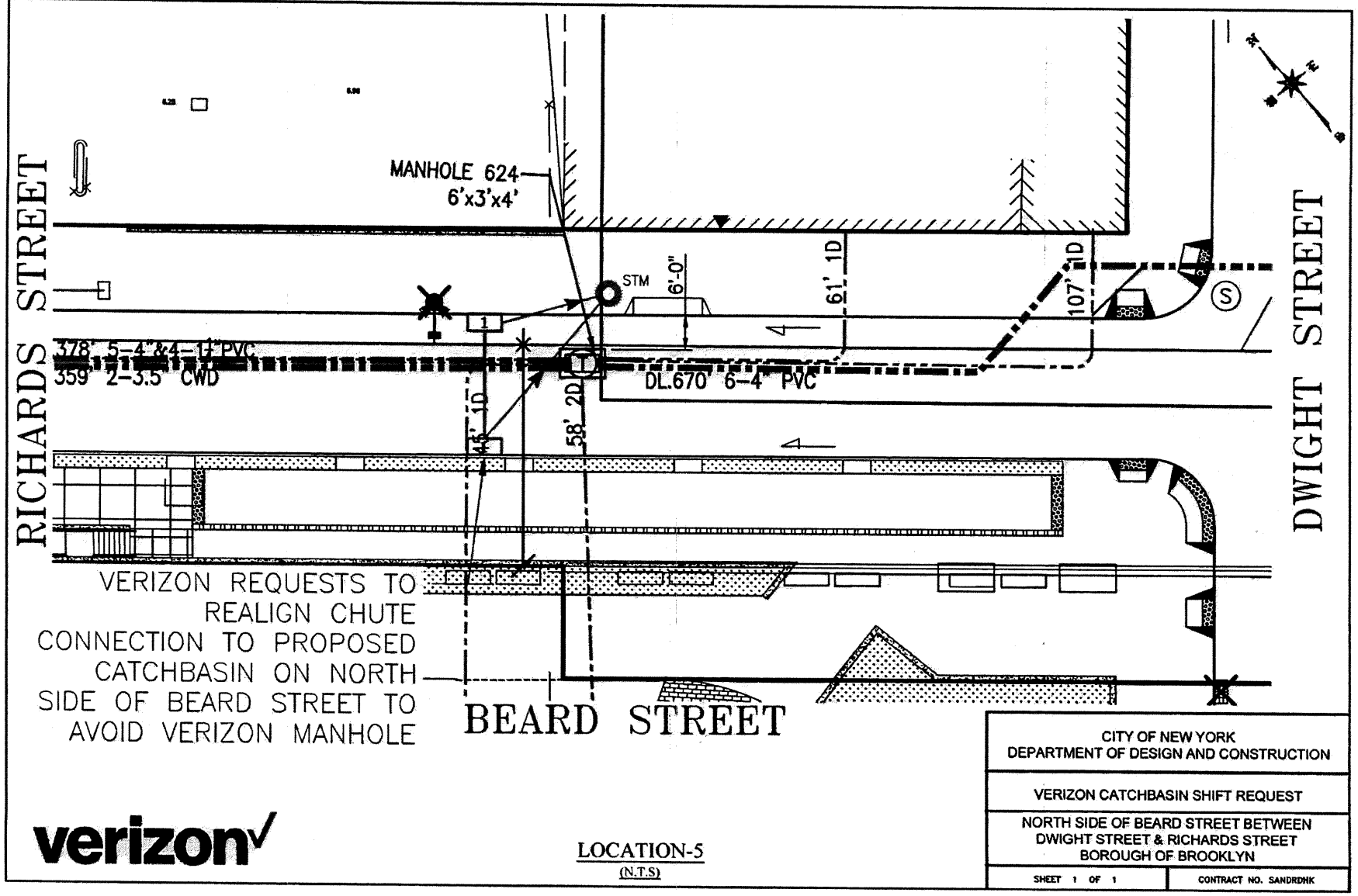
NOTE: MANHOLE DIMENSIONS PER MH 622 SURVEY PERFORMED BY VERIZON 8/2023.

verizon

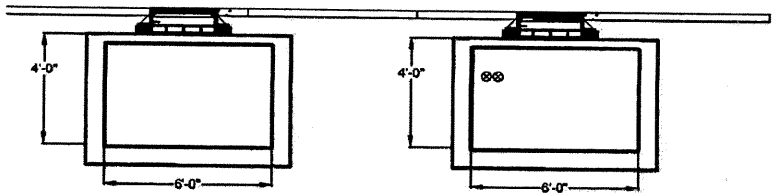
LOCATION-4
(N.T.S)

CITY OF NEW YORK DEPARTMENT OF DESIGN AND CONSTRUCTION
VERIZON CATCHBASIN SHIFT REQUEST
NORTH SIDE OF BEARD STREET BETWEEN VAN BRUNT STREET & RICHARDS STREET BOROUGH OF BROOKLYN
SHEET 1 OF 1 | CONTRACT NO. SANDRDHK

JB-F9

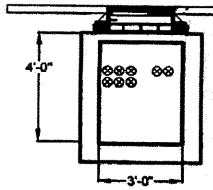

RICHARDS STREET
DWIGHT STREET
BEARD STREET
MANHOLE 624
6'x3'x4'
STM
6'-0"
61' 1D
107' 1D
378' 5-4"&4-12" PVC
359' 2-3.5" CWD
DL.670' 6-4" PVC
48' 1D
58' 2D
VERIZON REQUESTS TO REALIGN CHUTE CONNECTION TO PROPOSED CATCHBASIN ON NORTH SIDE OF BEARD STREET TO AVOID VERIZON MANHOLE
verizon
LOCATION-5
(N.T.S)
CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
VERIZON CATCHBASIN SHIFT REQUEST
NORTH SIDE OF BEARD STREET BETWEEN
DWIGHT STREET & RICHARDS STREET
BOROUGH OF BROOKLYN
SHEET 1 OF 1
CONTRACT NO. SANDRDNK

JB-F10

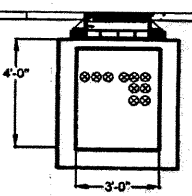


MANHOLE 624 SURVEY
NORTH WALL

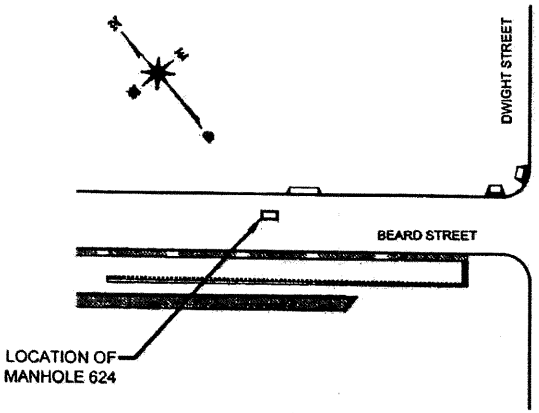
MANHOLE 624 SURVEY
SOUTH WALL



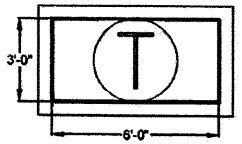
MANHOLE 624 SURVEY
EAST WALL



MANHOLE 624 SURVEY
WEST WALL



MANHOLE 624 LOCATION

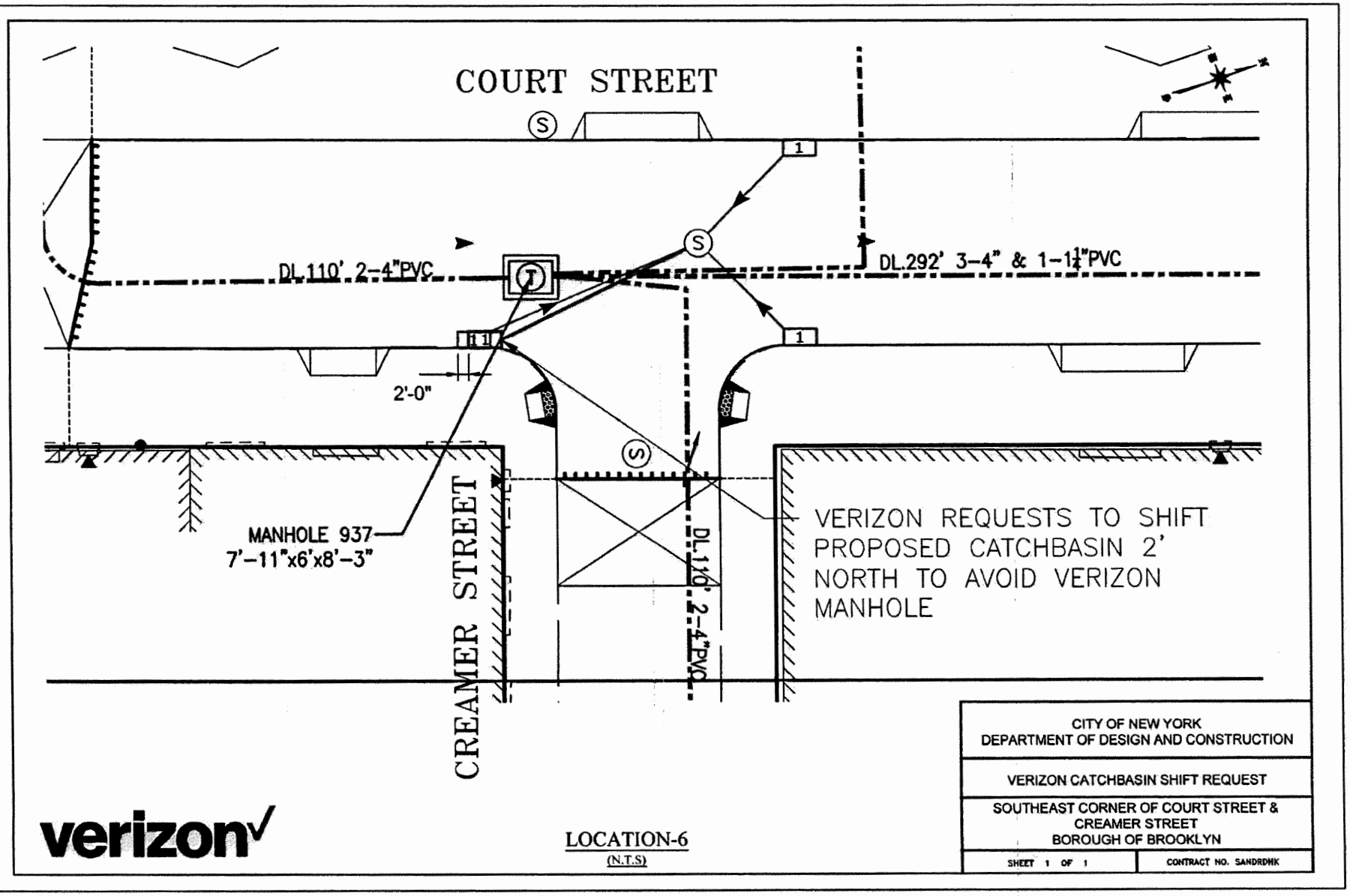


MANHOLE 624 DIMENSIONS

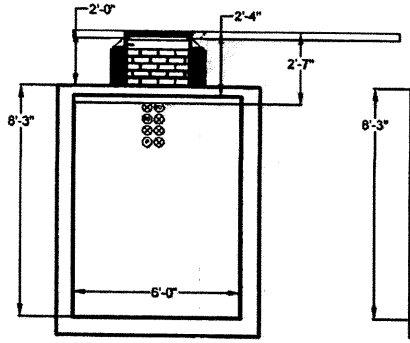
LOCATION NO.5
NORTH SIDE OF BEARD STREET BETWEEN
RICHARDS STREET & DWIGHT STREET
SCALE: NTS

VERIZON
MANHOLE 624
SANDRDHK – BOROUGH OF BROOKLYN

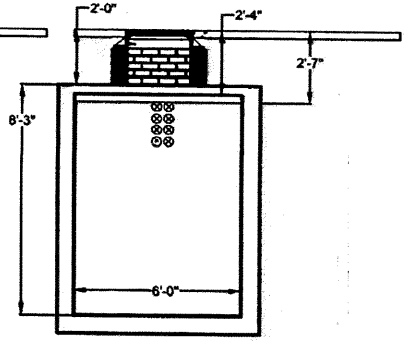
JB-F11


COURT STREET
DL.110' 2-4"PVC
DL.292' 3-4" & 1-1¼"PVC
2'-0"
MANHOLE 937
7'-11"x6'x8'-3"
CREAMER STREET
DL.110' 2-4"PVC
VERIZON REQUESTS TO SHIFT PROPOSED CATCHBASIN 2' NORTH TO AVOID VERIZON MANHOLE
verizon
LOCATION-6
(N.T.S)
CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
VERIZON CATCHBASIN SHIFT REQUEST
SOUTHEAST CORNER OF COURT STREET & CREAMER STREET
BOROUGH OF BROOKLYN
SHEET 1 OF 1
CONTRACT NO. SANDRDMK

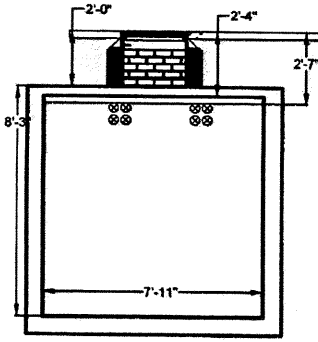
JB-F12



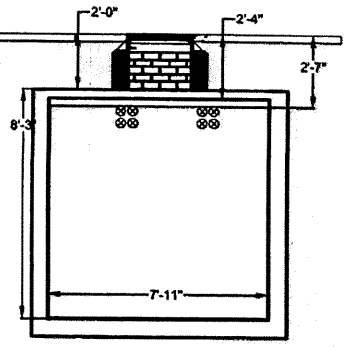
MANHOLE 937 SURVEY
NORTH WALL



MANHOLE 937 SURVEY
SOUTH WALL

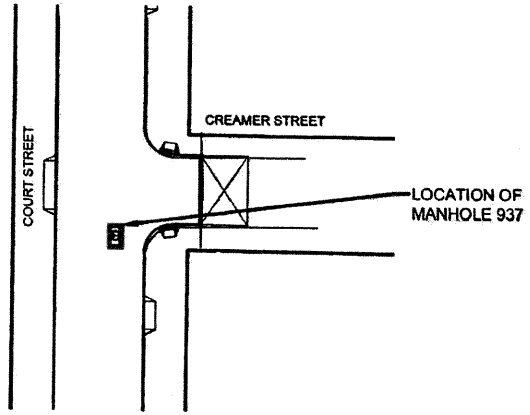


MANHOLE 937 SURVEY
EAST WALL

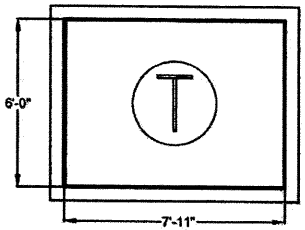


MANHOLE 937 SURVEY
WEST WALL





MANHOLE 937 LOCATION



MANHOLE 937 DIMENSIONS

NOTE: MANHOLE DIMENSIONS PER MH 937 SURVEY PERFORMED BY VERIZON 9/2023.

LOCATION NO.6
INTERSECTION OF COURT STREET & CREAMER STREET
SCALE: NTS

VERIZON
MANHOLE 937 SURVEY
SANDRDHK – BOROUGH OF BROOKLYN

JB-F13

SHEET NO. 1 OF 1

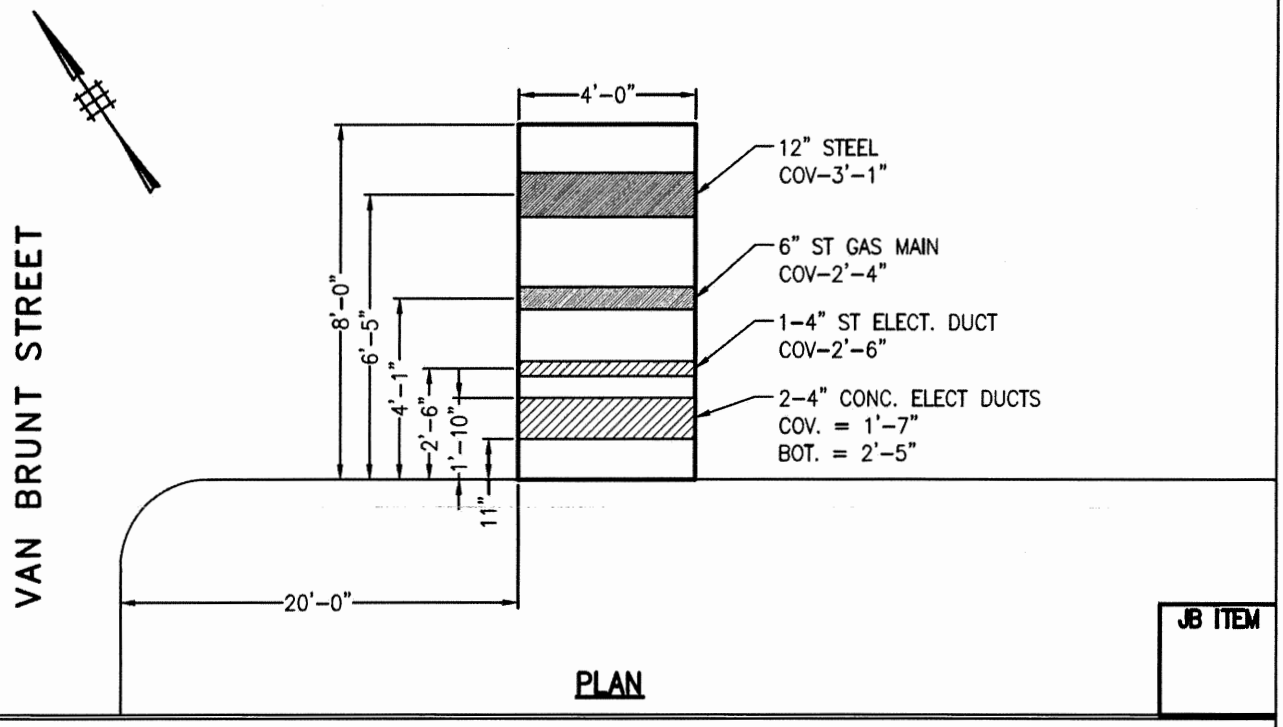
JOB: RED HOOK COASTAL RESILIENCY PREPARED BY: HENRY READ DATE: 09/12/22

JOB NO: SANDRDHK CHECKED BY: ANDREW MATARAZZO DATE: 9/15/22

TEST PIT # 1 LOCATION: SOUTHEAST CORNER INTERSECTION OF BEARD STREET & VAN BRUNT STREET, BROOKLYN

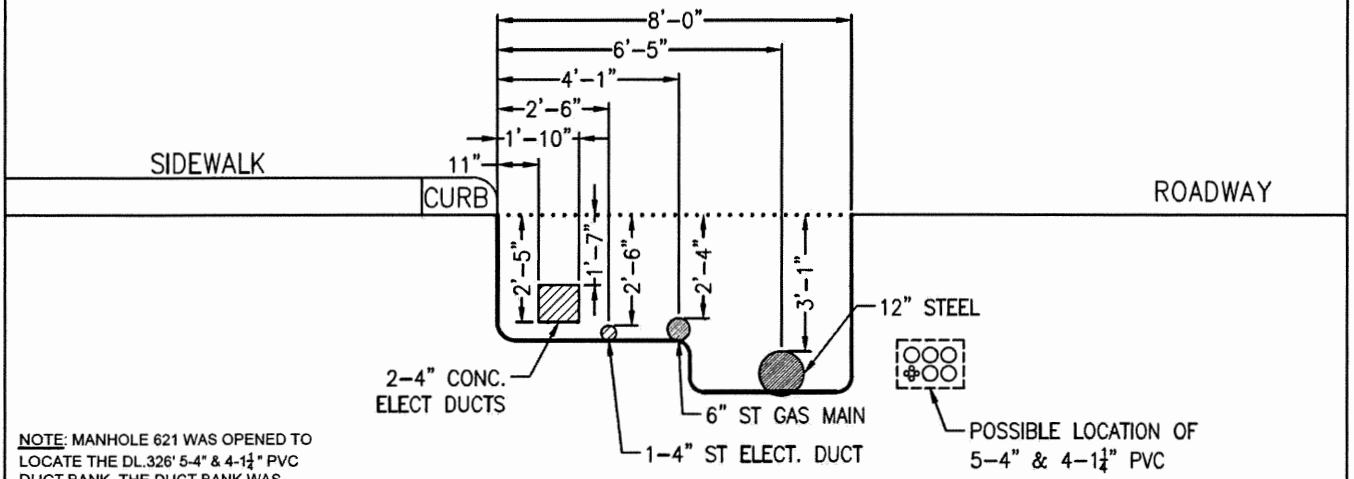
PURPOSE: LOCATE UTILITIES

TRENCH DIMENSIONS
8'–0" X 4'–0" X 1'–8"



JB ITEM

PLAN



NOTE: MANHOLE 621 WAS OPENED TO LOCATE THE DL.326' 5-4" & 4-1¼" PVC DUCT BANK. THE DUCT BANK WAS LOCATED AT THE NORTHERN EDGE OF THE EAST WALL AT A DEPTH OF 2'-8" AND APPROXIMATELY 10' OFF THE SOUTH CURB.

SECTION LOOKING WEST

JB-F14

verizon

SHEET NO. 1 OF 1

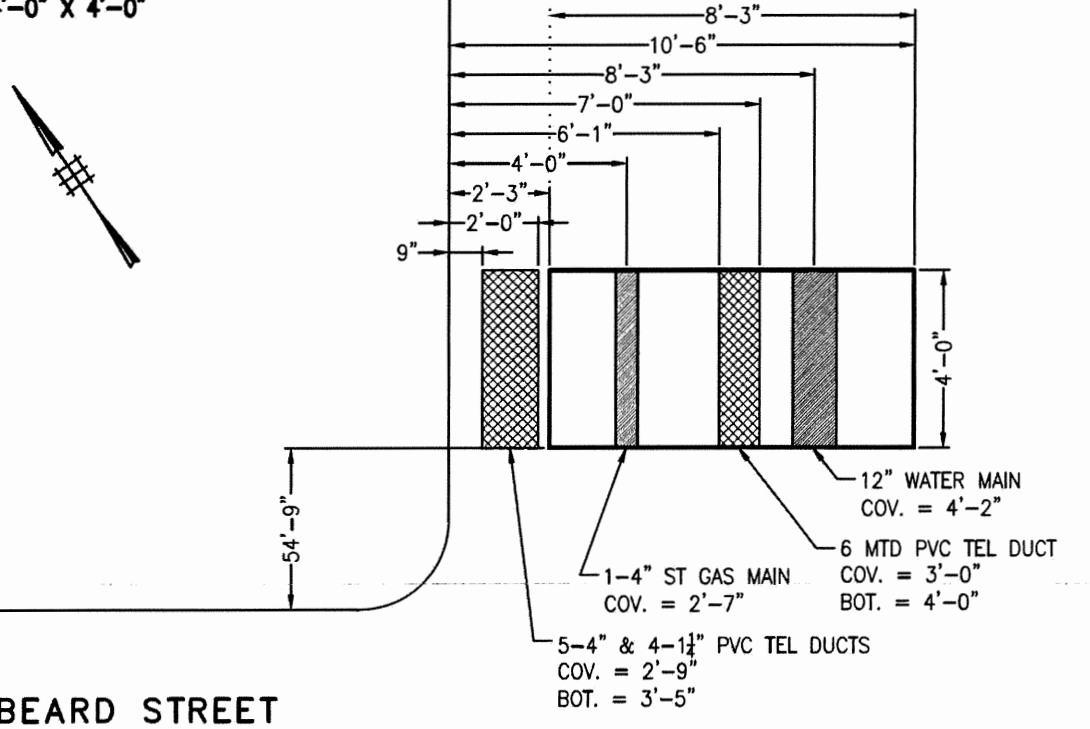
JOB: RED HOOK COASTAL RESILIENCY PREPARED BY: HENRY READ DATE: 09/12/22

JOB NO: SANDRDHK CHECKED BY: ANDREW MATARAZZO DATE: 9/15/22

TEST PIT # 2 LOCATION: WEST SIDE OF VAN BRUNT STREET BTWN BEARD

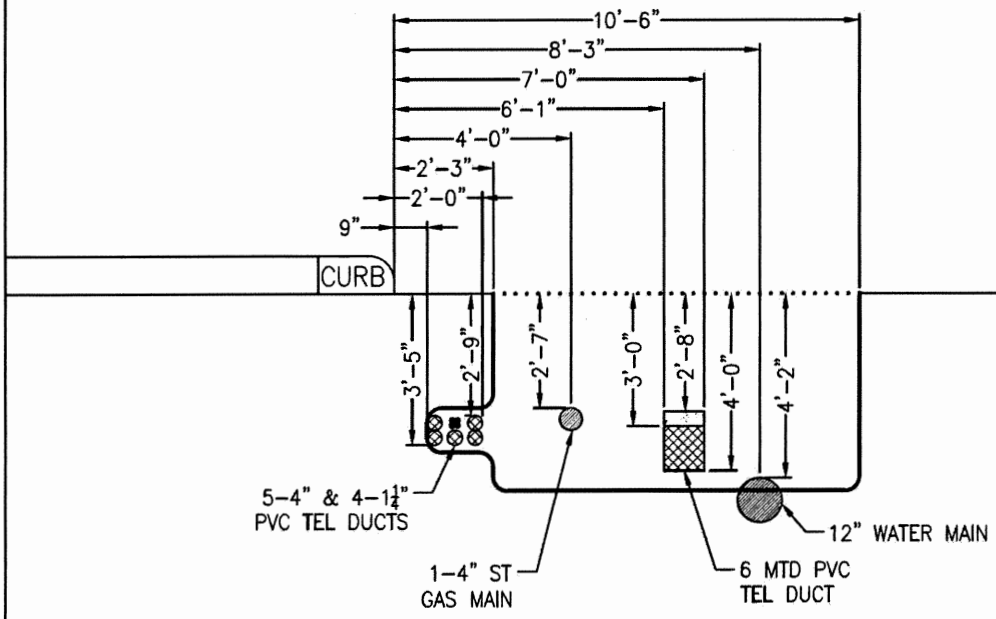
PURPOSE: LOCATE UTILITIES STREET & VAN DYKE STREET, BROOKLYN

TRENCH DIMENSIONS
8'-3" X 4'-0" X 4'-0"



PLAN

JB ITEM
100.2x2
225.2A
401
402T.2A



SECTION LOOKING NORTH

verizon

SHEET NO. 1 OF 1

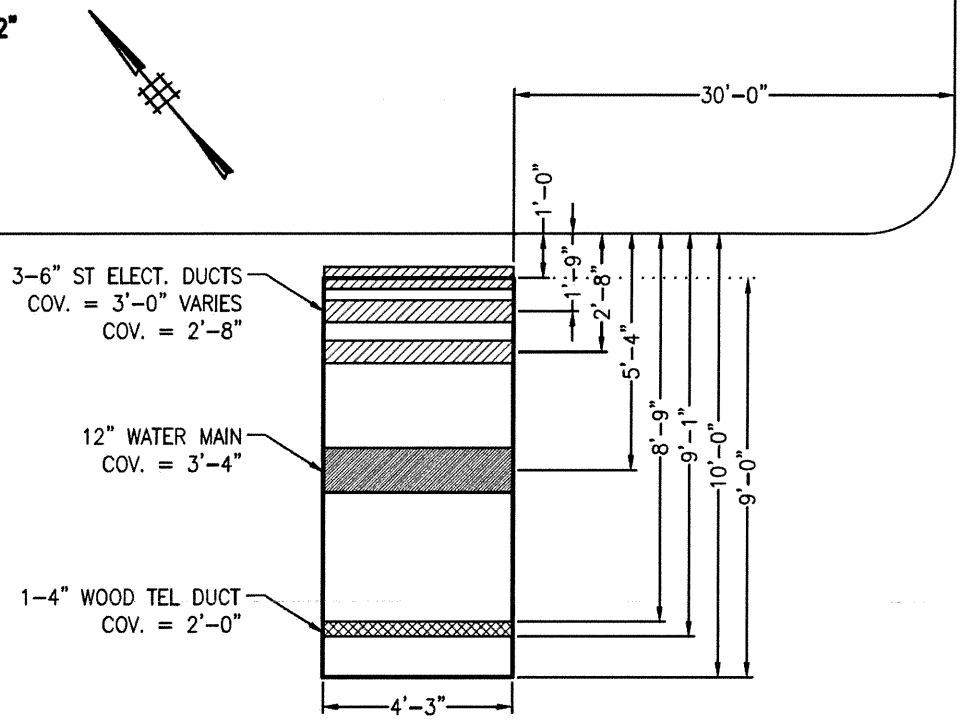
JOB: RED HOOK COASTAL RESILIENCY PREPARED BY: HENRY READ DATE: 09/12/22

JOB NO: SANDRDHK CHECKED BY: ANDREW MATARAZZO DATE: 9/15/22

TEST PIT # 3 LOCATION: NORTHWEST CORNER INTERSECTION OF BEARD STREET & DWIGHT STREET, BROOKLYN

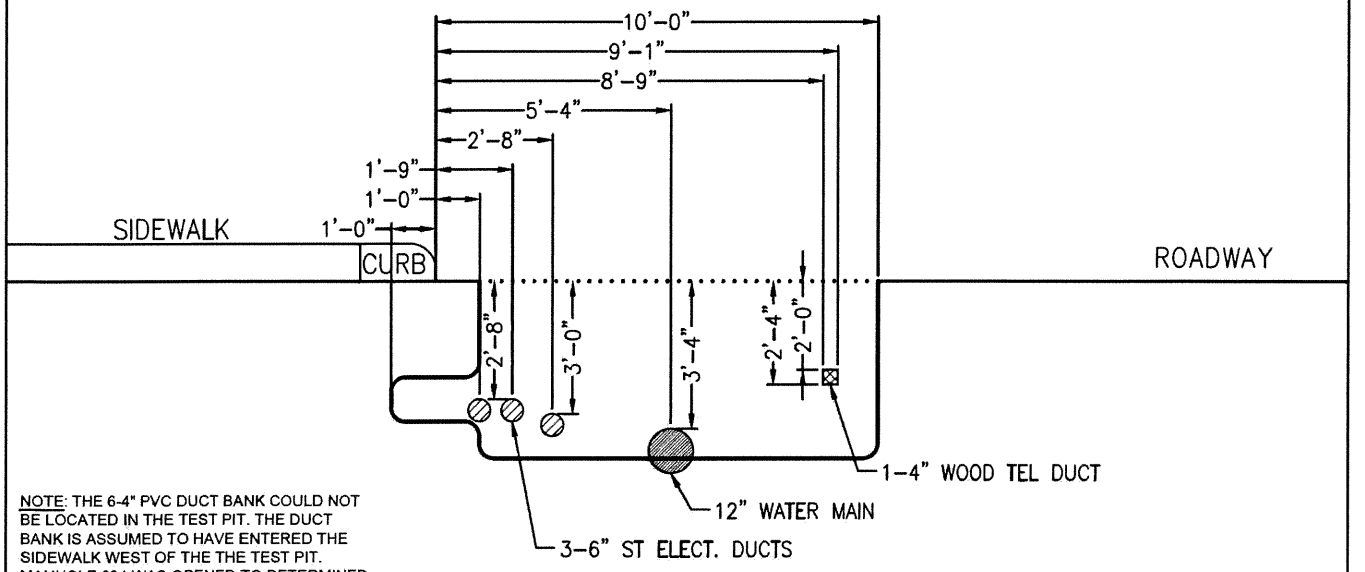
PURPOSE: LOCATE UTILITIES

TRENCH DIMENSIONS
9'-0" X 4'-3" X 3'-2"



PLAN

JB ITEM
401
402T.2A



NOTE: THE 6-4" PVC DUCT BANK COULD NOT BE LOCATED IN THE TEST PIT. THE DUCT BANK IS ASSUMED TO HAVE ENTERED THE SIDEWALK WEST OF THE THE TEST PIT. MANHOLE 624 WAS OPENED TO DETERMINED THE DEPTH OF THE DUCT BANK. THE MANHOLE WAS COMPLETELY SUBMERGED IN WATER AND THE DEPTH OF THE DUCT BANK COULD NOT BE DETERMINED.

SECTION LOOKING EAST

SHEET NO. 1 OF 1

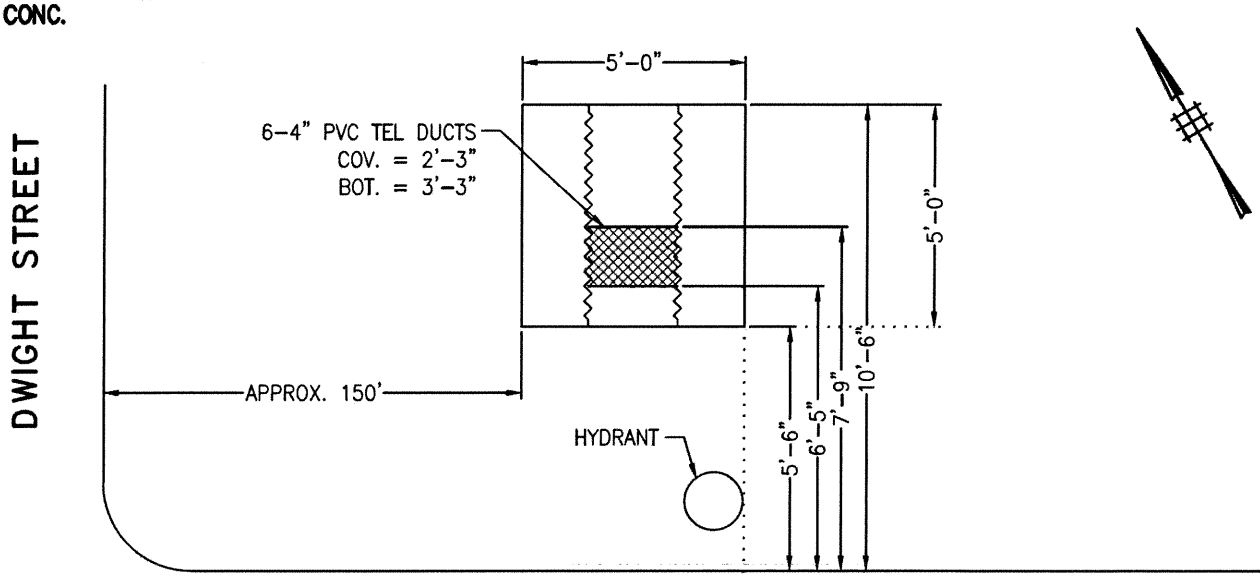
JOB: RED HOOK COASTAL RESILIENCY PREPARED BY: CHRISTOPHER RICCARDI DATE: 09/19/2022

JOB NO: SANDRDHK CHECKED BY: ANDREW MATARAZZO DATE:

TEST PIT # 4 LOCATION: NORTH SIDEWALK OF BEARD STREET

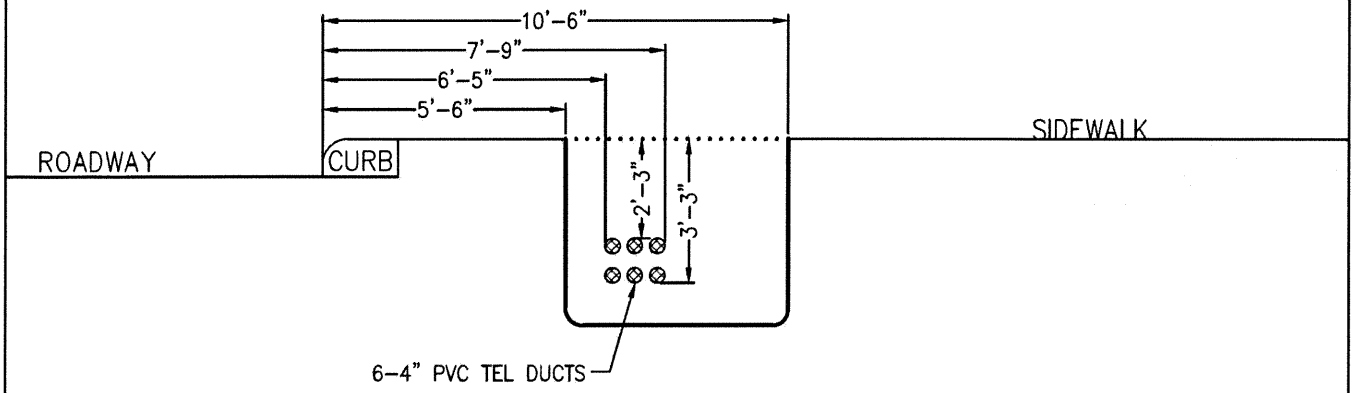
PURPOSE: LOCATE UTILITIES BETWEEN DWIGHT & OTSEGO STREET, BROOKLYN

TRENCH DIMENSIONS
5'-0" X 5'-0" X 2'-0"
4" CONC.



PLAN

JB ITEM
401
402T.2A



SECTION LOOKING WEST

verizon

SHEET NO. 1 OF 1

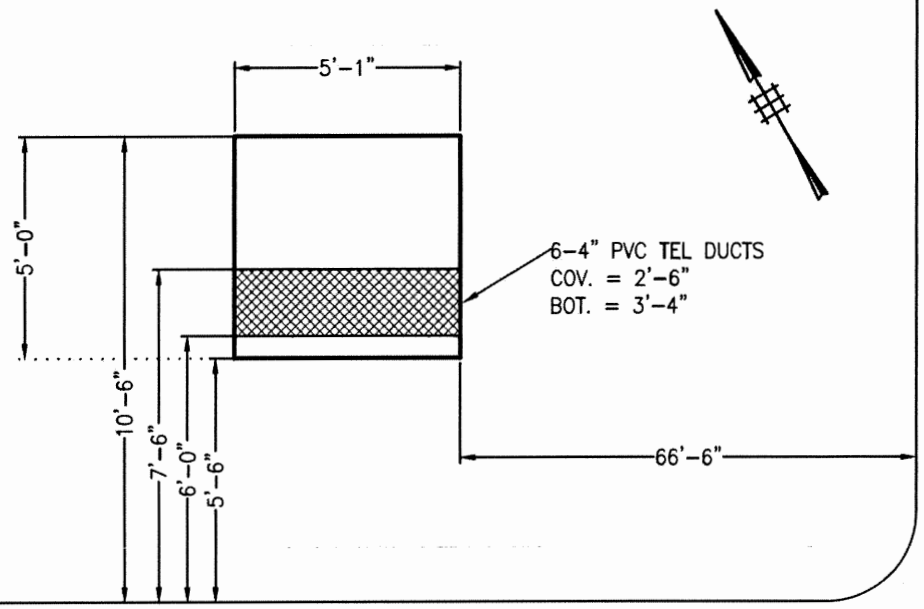
JOB: RED HOOK COASTAL RESILIENCY PREPARED BY: CHRISTOPHER RICCARDI DATE: 09/19/2022

JOB NO: SANDRDHK CHECKED BY: ANDREW MATARAZZO DATE:

TEST PIT # 5 LOCATION: NORTH SIDEWALK OF BEARD STREET

PURPOSE: LOCATE UTILITIES BETWEEN DWIGHT & OTSEGO STREET, BROOKLYN

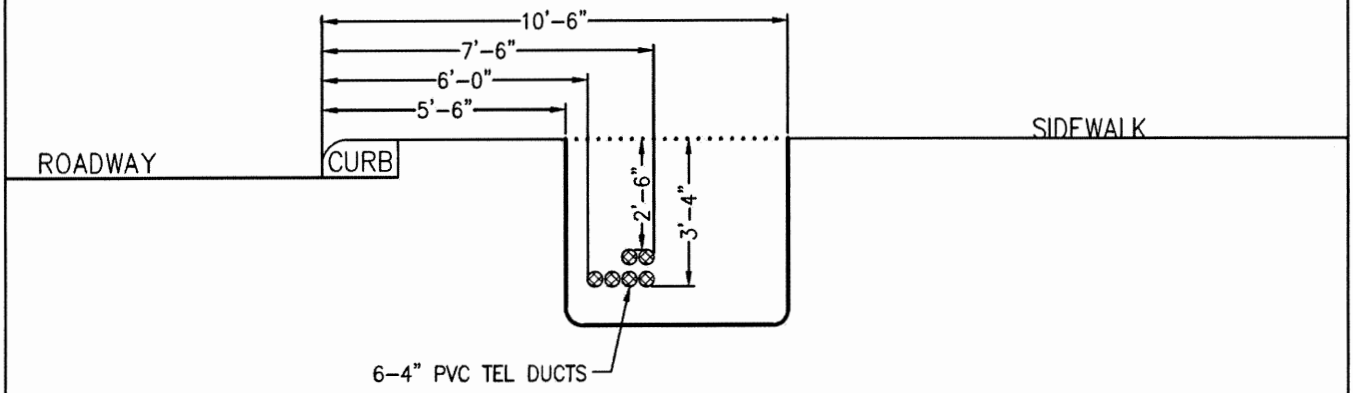
TRENCH DIMENSIONS
5'-0 X 5'-1" X 3'-6"



BEARD STREET

PLAN

JB ITEM
401
402T.2A



SECTION LOOKING WEST

SHEET NO. 1 OF 1

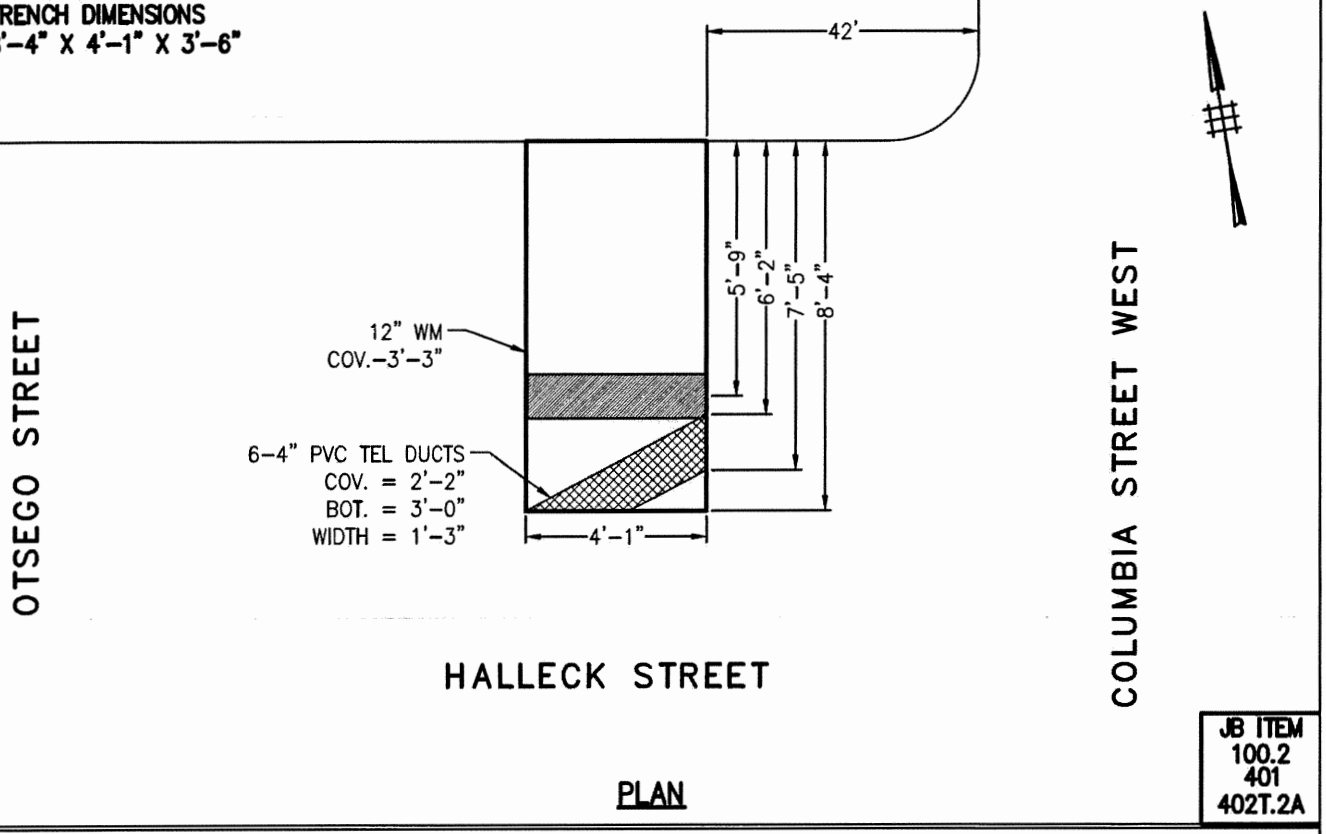
JOB: RED HOOK COASTAL RESILIENCY PREPARED BY: CHRISTOPHER RICCARDI DATE: 09/19/2022

JOB NO: SANDRDHK CHECKED BY: ANDREW MATARAZZO DATE: 12/25/2023

TEST PIT # 7 LOCATION: NORTHWEST CORNER OF HALLECK STREET & COLUMBIA STREET WEST, BROOKLYN

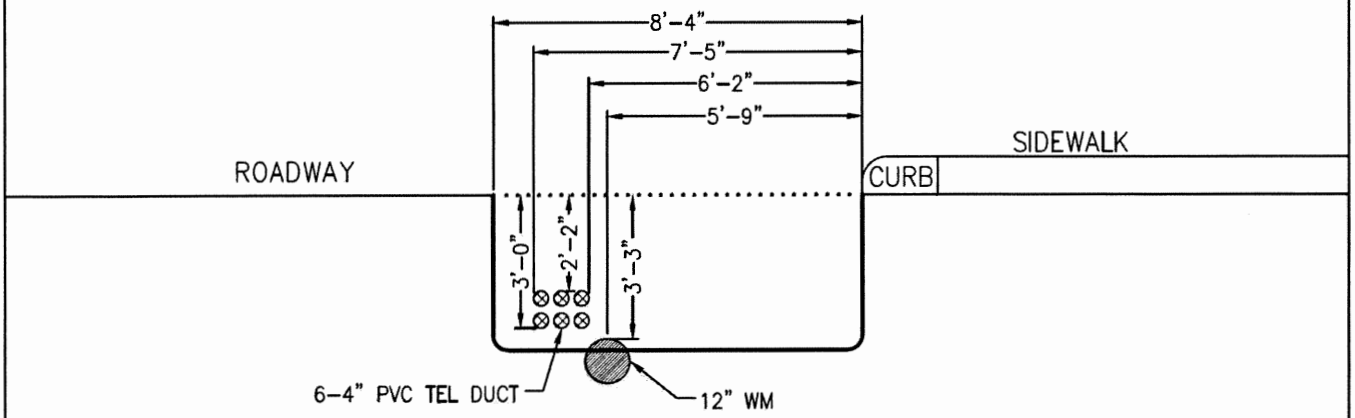
PURPOSE: LOCATE UTILITIES

TRENCH DIMENSIONS
8'-4" X 4'-1" X 3'-6"



PLAN

JB ITEM
100.2
401
402T.2A



SECTION LOOKING WEST

verizon

SHEET NO. 1 OF 1

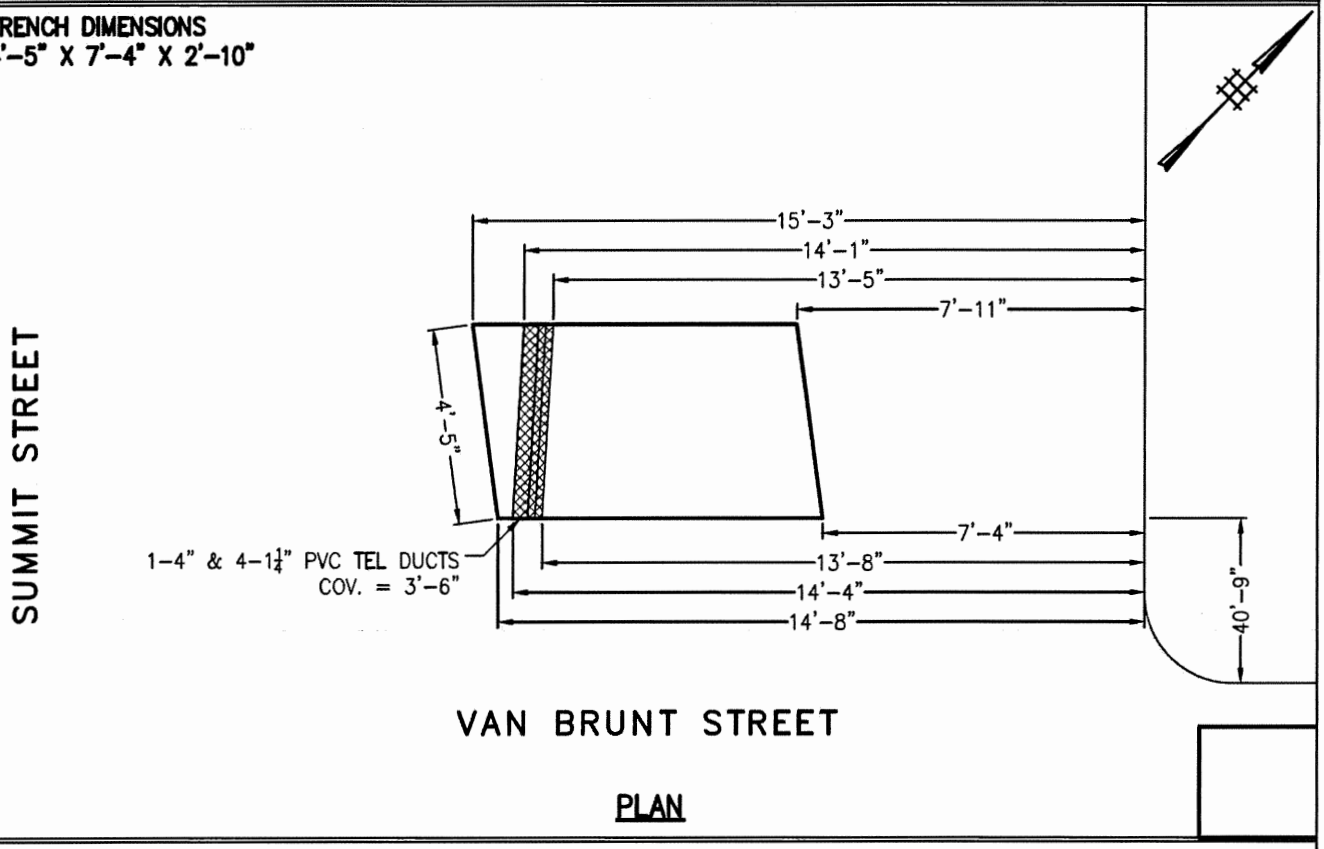
JOB: RED HOOK COASTAL RESILIENCY PREPARED BY: CHRISTOPHER RICCARDI DATE: 12/21/2023

JOB NO: SANDRDHK CHECKED BY: ANDREW MATARAZZO DATE: 12/25/2023

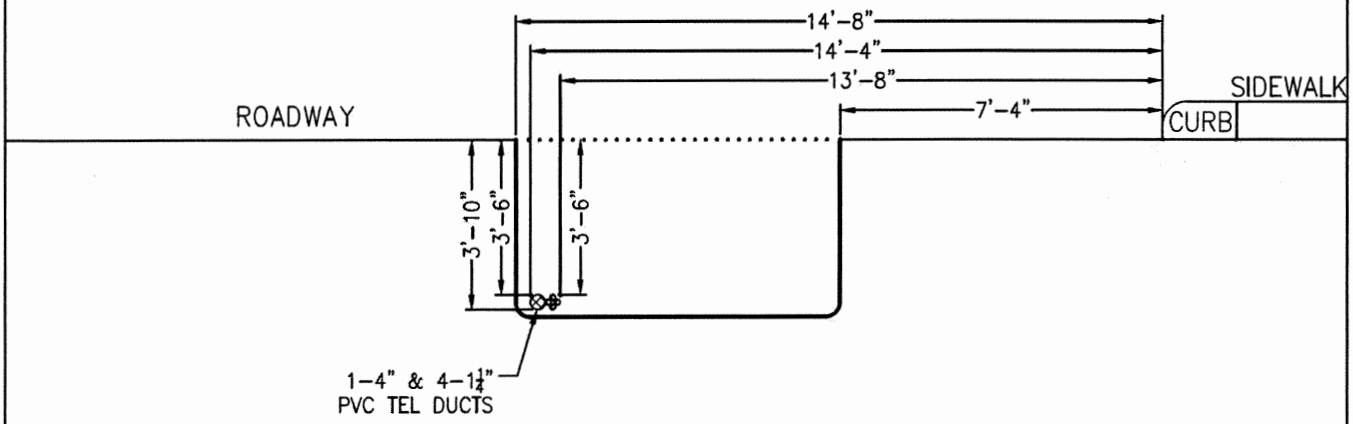
TEST PIT # 8 LOCATION: NORTH SIDE OF SUMMIT STREET BTWN VAN BRUNT STREET & IMLAY STREET, BROOKLYN

PURPOSE: LOCATE UTILITIES

TRENCH DIMENSIONS
4'-5" X 7'-4" X 2'-10"



PLAN



SECTION LOOKING WEST

SHEET NO. 1 OF 1

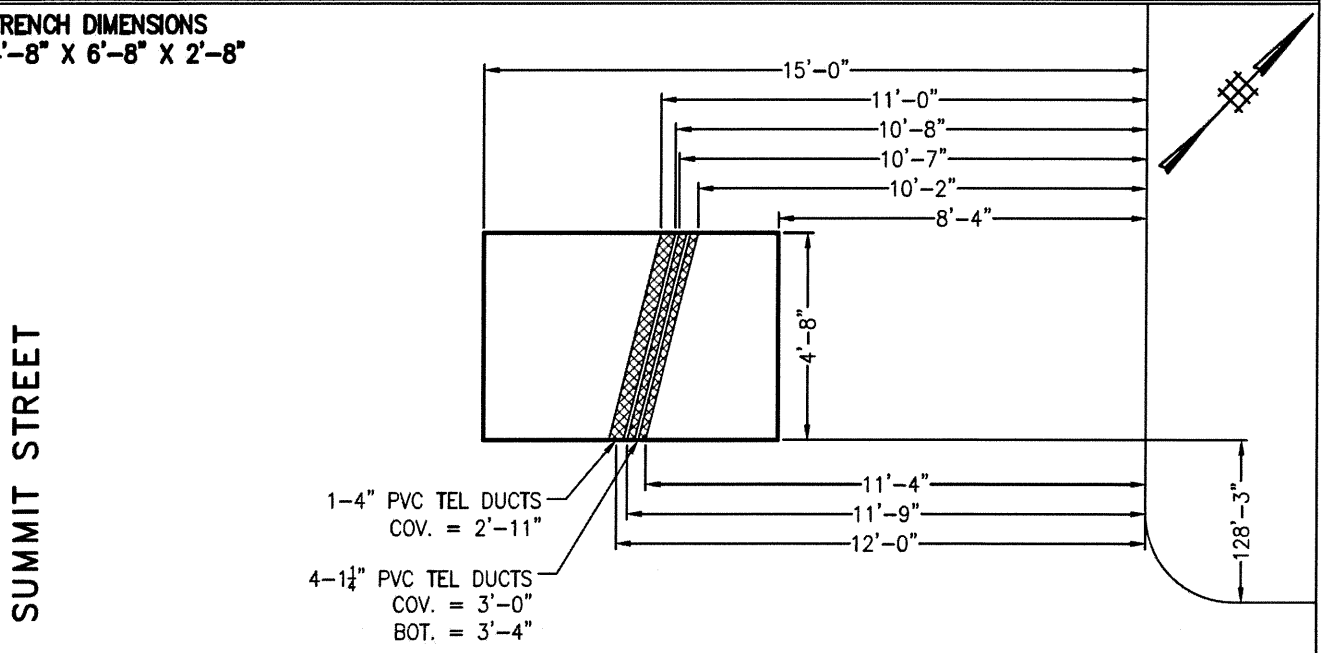
JOB: RED HOOK COASTAL RESILIENCY PREPARED BY: CHRISTOPHER RICCARDI DATE: 12/21/2023

JOB NO: SANDRDHK CHECKED BY: ANDREW MATARAZZO DATE: 12/25/2023

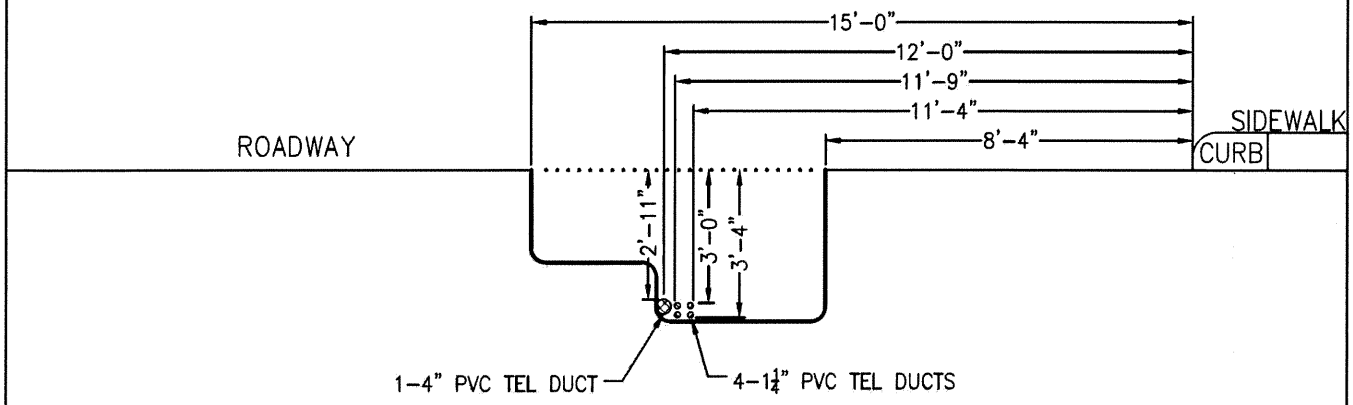
TEST PIT # 9 LOCATION: NORTH SIDE OF SUMMIT STREET BTWN VAN BRUNT STREET & IMLAY STREET, BROOKLYN

PURPOSE: LOCATE UTILITIES

TRENCH DIMENSIONS
4'-8" X 6'-8" X 2'-8"



PLAN



SECTION LOOKING WEST

SHEET NO. 1 OF 1

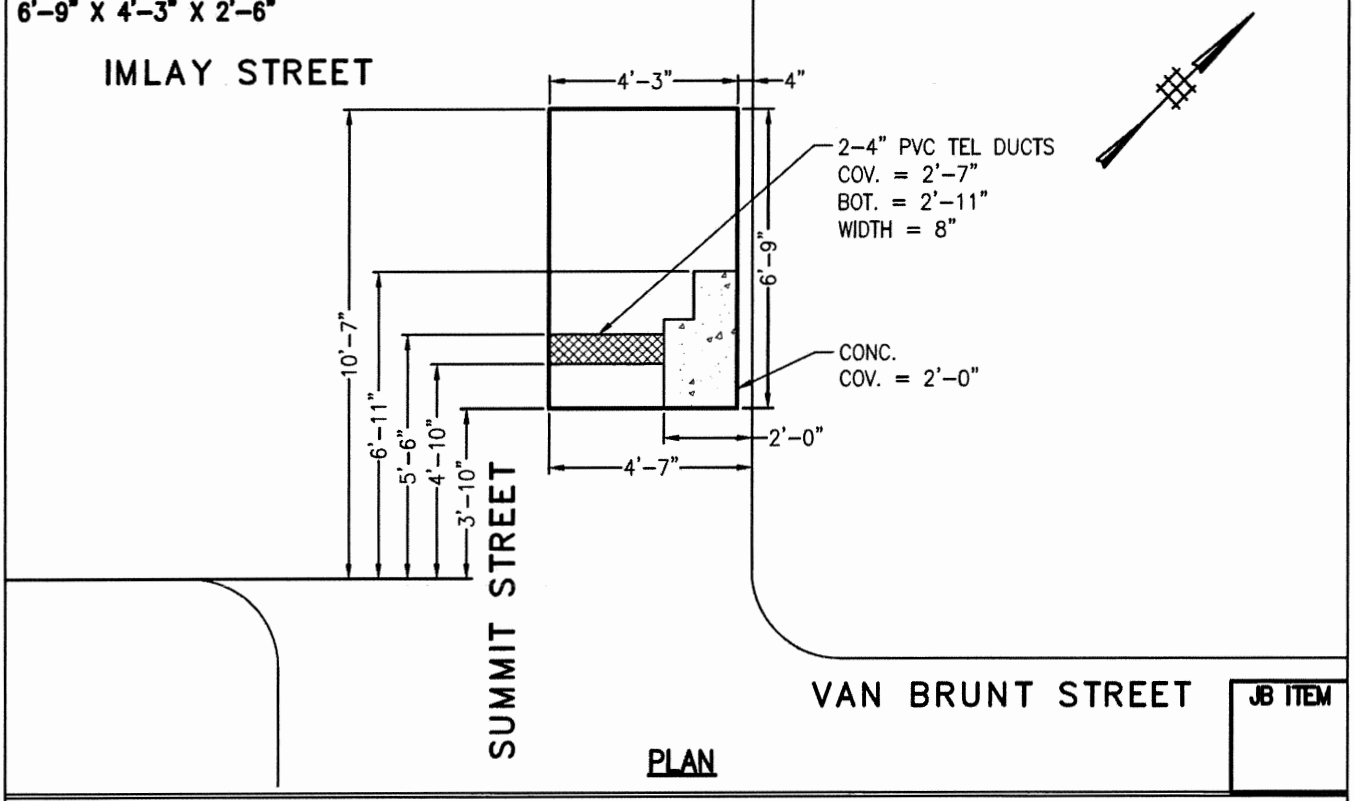
JOB: RED HOOK COASTAL RESILIENCY PREPARED BY: CHRISTOPHER RICCARDI DATE: 12/27/2023

JOB NO: SANDRDHK CHECKED BY: ANDREW MATARAZZO DATE: 12/29/2023

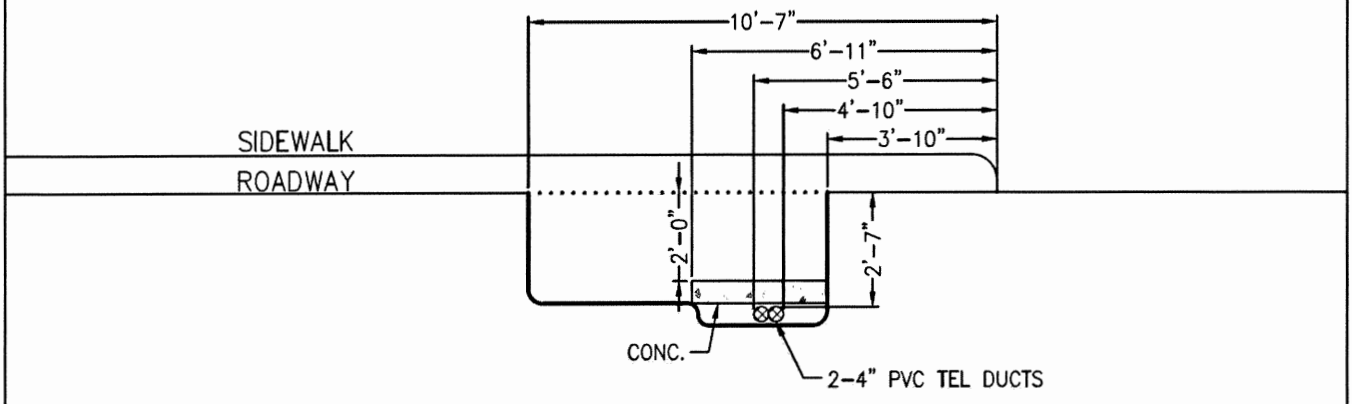
TEST PIT # 10 LOCATION: NORTH SIDE CORNER OF IMLAY STREET & SUMMIT STREET, BROOKLYN

PURPOSE: LOCATE UTILITIES

TRENCH DIMENSIONS
6'-9" X 4'-3" X 2'-6"



PLAN



SECTION LOOKING NORTH

SHEET NO. 1 OF 1

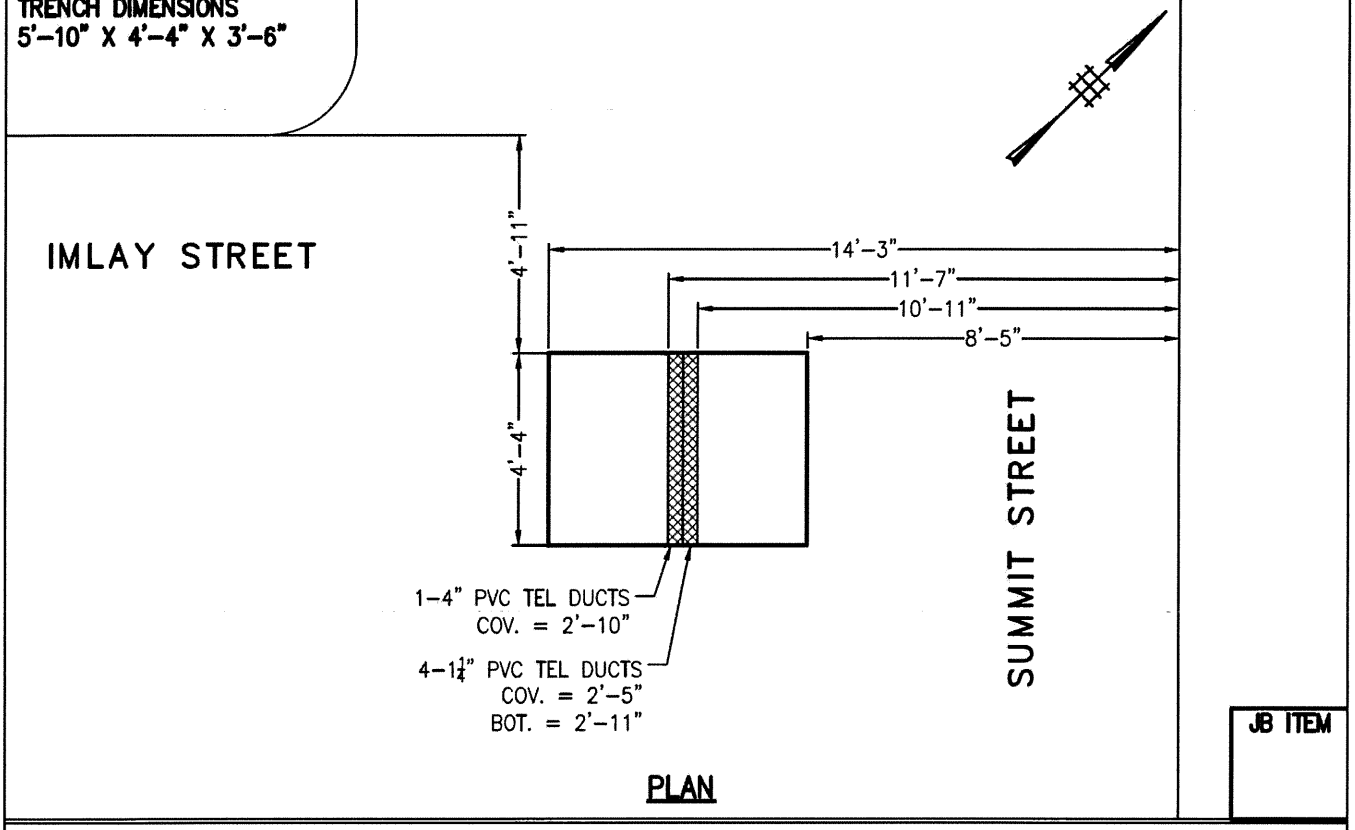
JOB: RED HOOK COASTAL RESILIENCY PREPARED BY: CHRISTOPHER RICCARDI DATE: 12/27/2023

JOB NO: SANDRDHK CHECKED BY: ANDREW MATARAZZO DATE: 12/29/2023

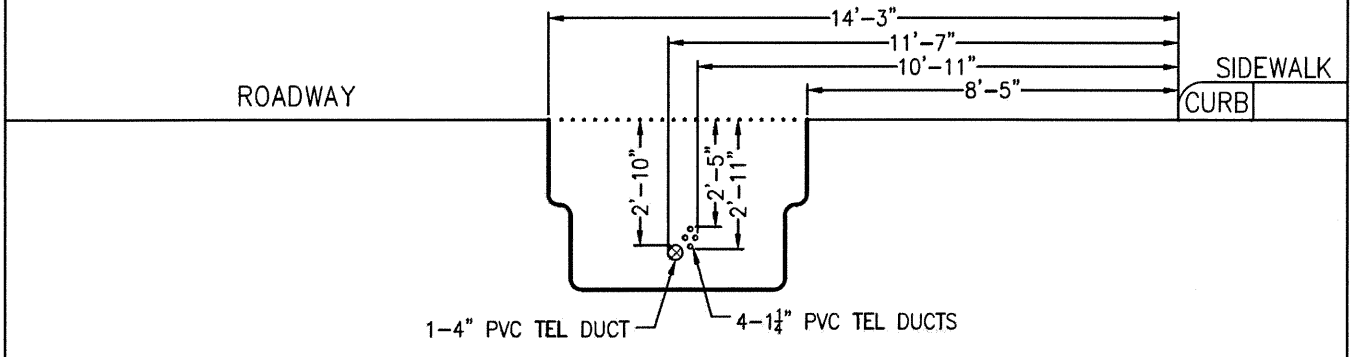
TEST PIT # 11 LOCATION: NORTH WEST CORNER OF IMLAY STREET & SUMMIT STREET, BROOKLYN

PURPOSE: LOCATE UTILITIES

TRENCH DIMENSIONS
5'-10" X 4'-4" X 3'-6"



PLAN



SECTION LOOKING WEST

SHEET NO. 1 OF 1

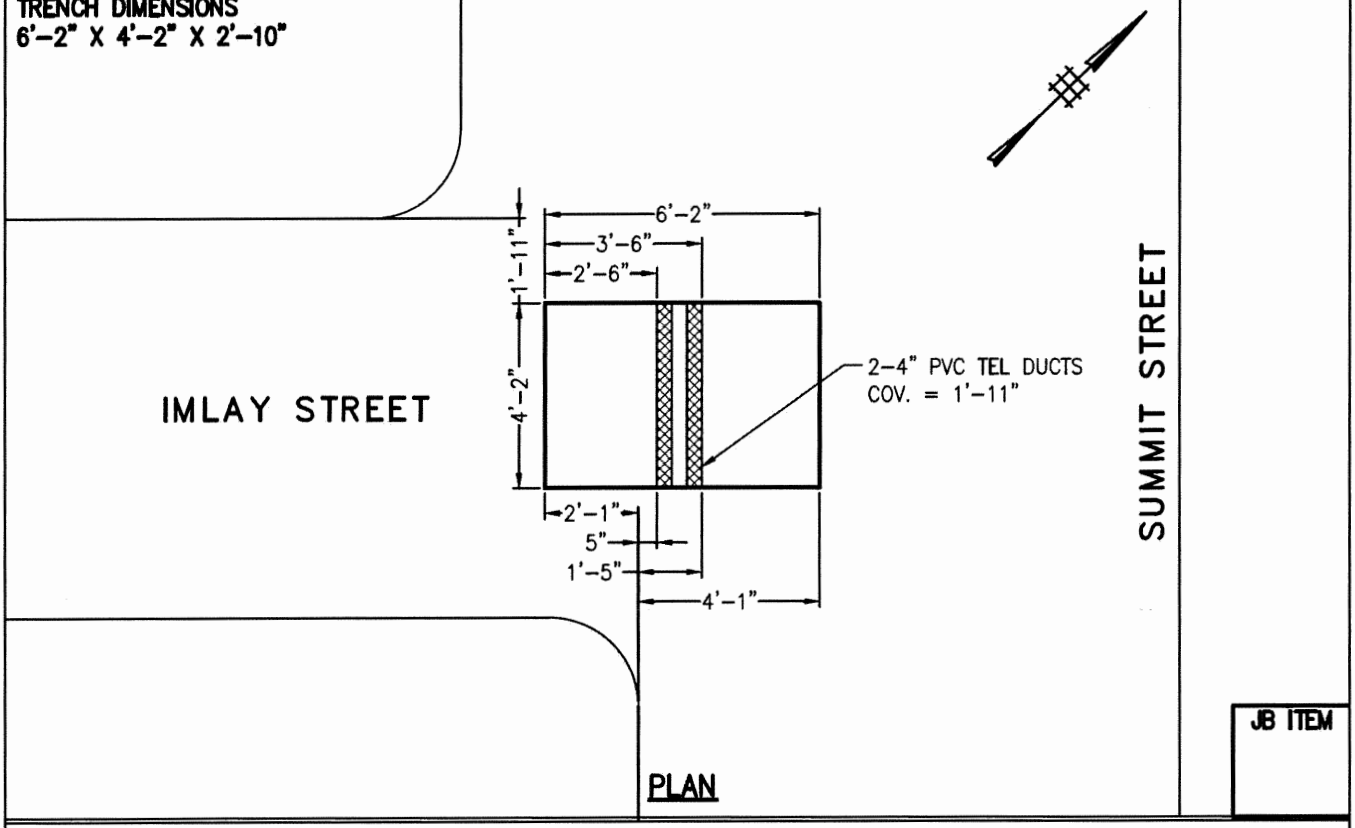
JOB: RED HOOK COASTAL RESILIENCY PREPARED BY: CHRISTOPHER RICCARDI DATE: 12/27/2023

JOB NO: SANDRDHK CHECKED BY: ANDREW MATARAZZO DATE: 12/29/2023

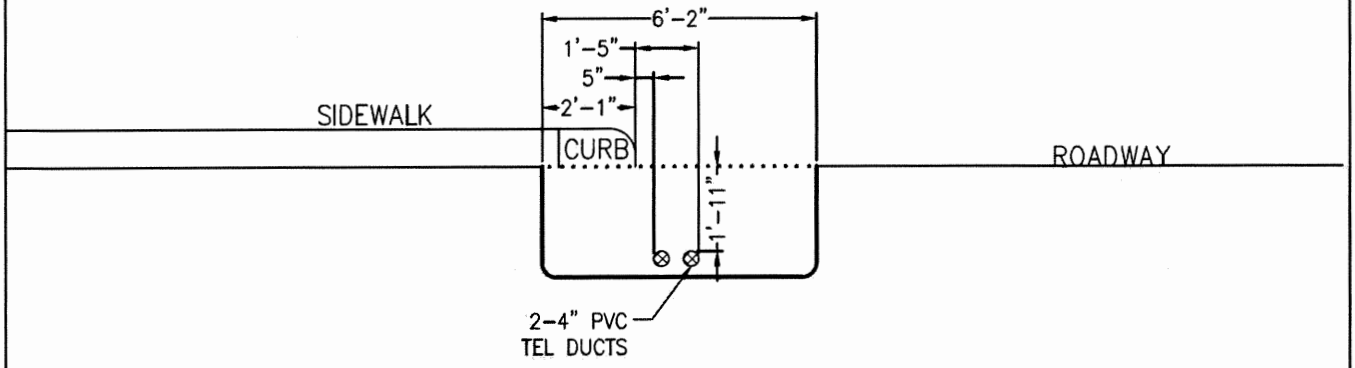
TEST PIT # 12 LOCATION: SOUTH WEST CORNER INTERSECTION OF IMLAY STREET & SUMMIT STREET, BROOKLYN

PURPOSE: LOCATE UTILITIES

TRENCH DIMENSIONS
6'-2" X 4'-2" X 2'-10"



PLAN



SECTION LOOKING WEST

SHEET NO. 1 OF 1

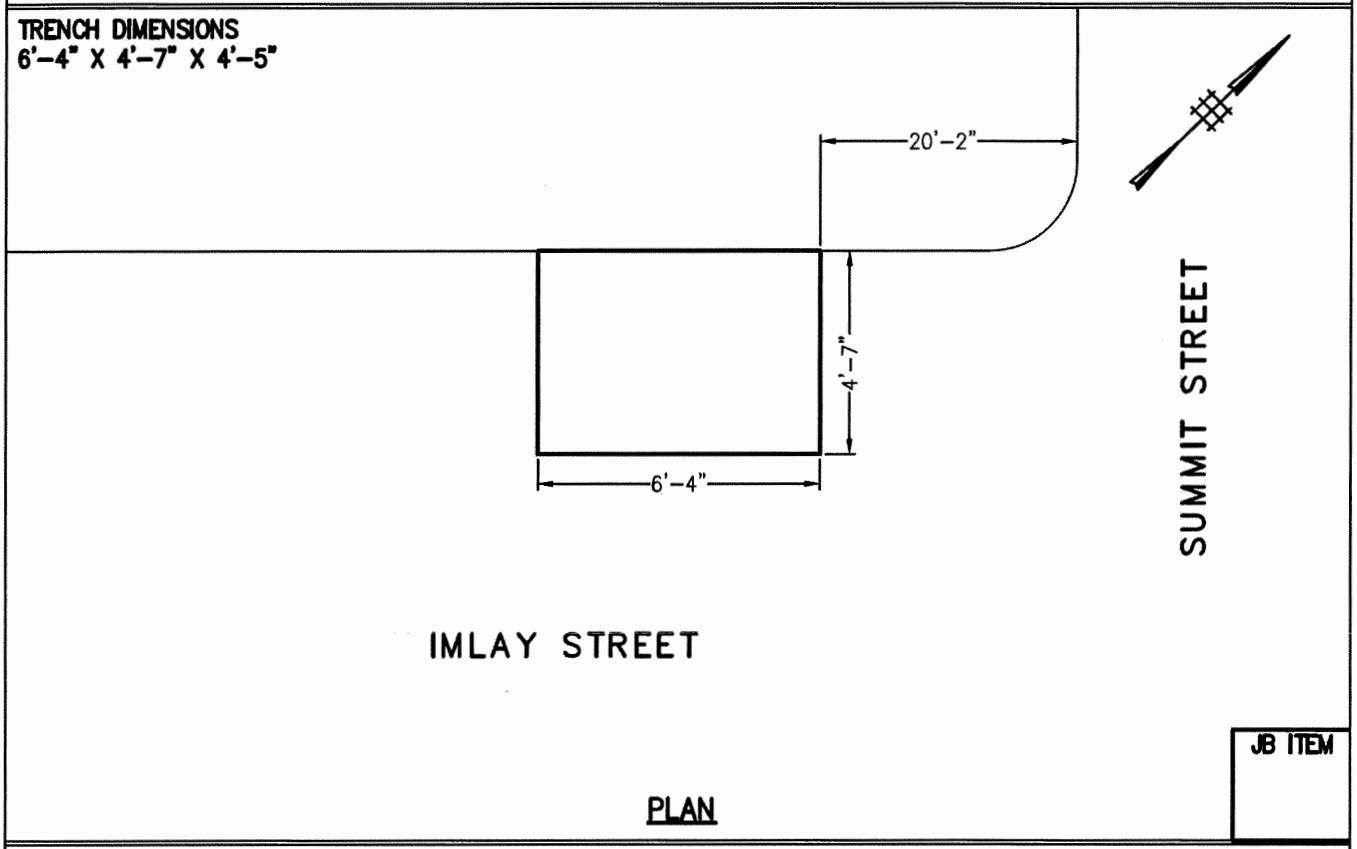
JOB: RED HOOK COASTAL RESILIENCY PREPARED BY: CHRISTOPHER RICCARDI DATE: 12/27/2023

JOB NO: SANDRDHK CHECKED BY: ANDREW MATARAZZO DATE: 12/29/2023

TEST PIT # 13 LOCATION: SOUTH WEST CORNER OF IMLAY STREET & SUMMIT STREET, BROOKLYN

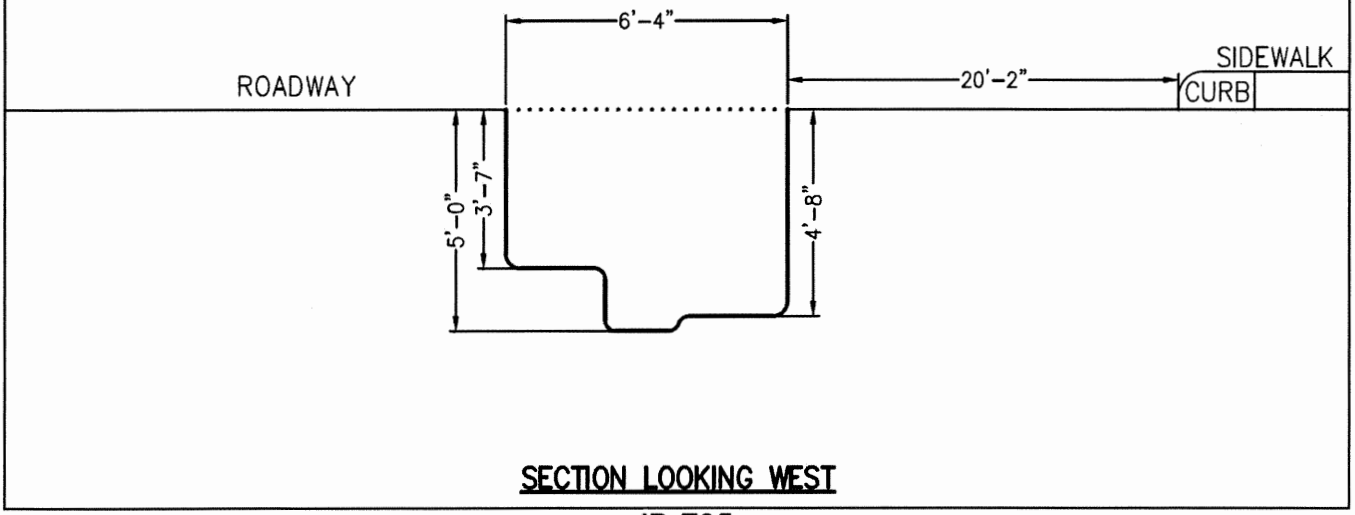
PURPOSE: LOCATE UTILITIES

TRENCH DIMENSIONS
6'-4" X 4'-7" X 4'-5"



JB ITEM

PLAN



SECTION LOOKING WEST

END OF JB-PAGES SECTION F
(NO FURTHER TEXT ON THIS PAGE)

SECTION G. PRIVATE UTILITY DRAWING LIST

UTILITY DRAWING LIST

GENERAL:

DRAWING TITLE	DRAWING NO.	NO. OF SHEETS
GENERAL NOTES AND CONDITIONS FOR UTILITY WORK	JB-U1	1

CON EDISON :

DRAWING TITLE	DRAWING NO.	NO. OF SHEETS
ELECTRIC RELOCATION	JB-U2	1
OVERHEAD ELECTRICAL CONDITION REPORT	JB-U3 TO JB -U19	17
CONDUIT AND DUCT OCCUPANCY PLATE	JB-U20 TO JB-U25	6
LOW TENSION MAINS AND SERVICE PLATE	JB-U26 TO JB-U31	6

VERIZON :

DRAWING TITLE	DRAWING NO.	NO. OF SHEETS
FLOODWALL PLAN	JB-U32 TO JB-U36	5
SPECIAL CARE EXCAVATION PLAN	JB-U37 TO JB-U44	8
OVERHEAD MAINLINE PLAN	JB-U45 TO JB-U62	18
CONDUIT UTILITY PLATE	JB-U63 TO JB-U73	11

DRAWING TITLE	DRAWING NO.	NO. OF SHEETS

DRAWING TITLE	DRAWING NO.	NO. OF SHEETS

DRAWING TITLE	DRAWING NO.	NO. OF SHEETS

TOTAL NUMBER OF CONTRACT DRAWINGS ATTACHED IS (73)

END OF JB-PAGES SECTION G
(NO FURTHER TEXT ON THIS PAGE)

FEMA - PAGES:

FEDERAL EMERGENCY MANAGEMENT AGENCY PROJECTS

FEDERAL EMERGENCY MANAGEMENT AGENCY ("FEMA") FUNDING ATTACHMENT

THE CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
INFRASTRUCTURE DIVISION
BUREAU OF DESIGN

THIS ATTACHMENT IS HEREBY MADE A PART OF THE CONTRACT DOCUMENTS

1. The riders and exhibits listed below, and included in this Attachment, are made a part of this contract documents, and the Contractor shall be responsible for compliance with all the provisions contained therein:
    - UNIFORM FEDERAL CONTRACT PROVISIONS RIDER FOR FEDERALLY FUNDED PROCUREMENT CONTRACTS (01/20/2021)
    - FEDERAL EMERGENCY MANAGEMENT AGENCY ("FEMA") RIDER (01/20/2021)
    - FEMA EXHIBIT 2 (10/27/2015)

2. **SCOPE OF WORK SEPERATION.** This project, either in part or in whole, is eligible to receive FEMA disaster assistance funding. As a result, the scopes of work eligible for reimbursement by FEMA will be tracked separately during the construction by the Engineer. Although tracking these FEMA-funded items will be primarily be the responsibility of the Engineer, the contractor will be required to assist the Engineer in this effort.

3. **CHANGE ORDERS AND OVERRUNS.** When change orders or overruns pertain to those portions of the project eligible for reimbursement by FEMA, the Contractor must provide detailed documentation to justify the eligibility of the added work, in addition to the requirements of Articles 25 and 26 of the New York City Standard Construction Contract. At a minimum, this documentation shall include the exact location of the work, justification for changing the original scope of work (either new work or quantity changes), field sketches/as-built drawings for the added work and photographs detailing the conditions necessitating the work. The documentation shall be approved by the Engineer.

   In addition, change order requests shall be formatted as follows:
    a. If contract covers work at multiple facilities and/or sites, change order requests shall identify the facility and/or site to which they apply.
    b. Change order requests shall identify the component scope to which the change applies.

(NO TEXT ON THIS PAGE)

UNIFORM FEDERAL CONTRACT PROVISIONS RIDER FOR FEDERALLY FUNDED PROCUREMENT CONTRACTS

(Version 01.20.2021)

[Instructions to Agencies: This Uniform Federal Contract Provisions Rider for Federally Funded Procurement Contracts ("Rider") must be attached to all federally funded procurement contracts (of any dollar amount) that are subject to 2 CFR Part 200 (Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards). This Rider does not apply to subrecipient or subaward agreements. Procurement contracts funded by HUD's CDBG Program, CDBG-DR Program, or by FEMA must also include the program-specific rider.]

A. *Definitions.* As used in this Rider:

(1) "Awarding Entity" means the entity awarding the Contract. The Awarding Entity may be the City or a contractor at any tier.

(2) "City" means the City of New York.

(3) "Commissioner" means the head of the City agency entering into this Contract.

(4) "Construction" means the building, rehabilitation, alteration, conversion, extension, demolition, painting or repair of any improvement to real property.

(5) "Contract" refers to the contract or the agreement between the Awarding Entity and the Contractor.

(6) "Contractor" means the entity performing the services pursuant to a Contract.

(7) "Federal Agency" means the U.S. agency or agencies funding this Contract in whole or in part.

(8) "Government" means the U.S. government.

(9) "Rider" means this Uniform Federal Contract Provisions Rider.

B. *Termination and Remedies for Breach of Contract.* The following provisions concerning remedies for breach of contract and termination apply to Contracts between the City and the City's Contractor.

(1) **Remedies for Breach of Contract.** If the Contractor violates or breaches the Contract, the City may avail itself of any or all of the remedies provided for elsewhere in this Contract. If there are no remedies provided for elsewhere in this Contract, the City may avail itself of any or all of the following remedies.

After declaring the Contractor in default pursuant to the procedures in paragraph (a) of subdivision (2) of this section (B) below, the City may (i) withhold payment for unsatisfactory services, (ii) suspend or terminate the Contract in whole or in part; and/or (iii) have the services under this Contract completed by such means and in such manner, by contract procured with or without competition, or otherwise, as the City may deem advisable in accordance with all applicable Contract provisions and law. After completion

of the services under this Contract, the City shall certify the expense incurred in such completion, which shall include the cost of procuring that contract. Should the expense of such completion, as certified by the City, exceed the total sum which would have been payable under the Contract if it had been completed by the Contractor, any excess shall be promptly paid by the Contractor upon demand by the City. The excess expense of such completion, including any and all related and incidental costs, as so certified by the City may be charged against and deducted out of monies earned by the Contractor.

(2) **Termination.** The City shall have the right to terminate the Contract in whole or in part for cause, for convenience, due to force majeure, or due to reductions in federal funding. If the Contract does not include termination provisions elsewhere, the following termination provisions apply:

a. **Termination for Cause**. The City shall have the right to terminate the Contract, in whole or in part, for cause upon a determination that the Contractor is in default of the Contract. Unless a shorter time is determined by the City to be necessary, the City shall effect termination according to the following procedure:

i. *Notice to Cure.* The City shall give written notice of the conditions of default signed by the Commissioner, setting forth the ground or grounds upon which such default is declared ("Notice to Cure"). The Contractor shall have ten (10) days from receipt of the Notice to Cure or any longer period that is set forth in the Notice to Cure to cure the default. The Commissioner may temporarily suspend services under the Contract pending the outcome of the default proceedings pursuant to this section.

ii. *Opportunity to be Heard.* If the conditions set forth in the Notice to Cure are not cured within the period set forth in the Notice to Cure, the Commissioner may declare the Contractor in default. Before the Commissioner may exercise his or her right to declare the Contractor in default, the Contractor must be given an opportunity to be heard upon not less than five (5) business days' notice. The Commissioner may, in his or her discretion, provide for such opportunity to be in writing or in person. Such opportunity to be heard shall not occur prior to the end of the cure period but notice of such opportunity to be heard may be given prior to the end of the cure period and may be given contemporaneously with the Notice to Cure.

iii. *Notice of Termination.* After an opportunity to be heard, the Commissioner may terminate the Contract, in whole or in part, upon finding the Contractor in default. The Commissioner shall give the Contractor written notice of such termination ("Notice of Termination"), specifying the applicable provision(s) under which the Contract is terminated and the effective date of termination. If no date is specified in the Notice of Termination, the termination

shall be effective either 10 calendar days from the date the notice is personally delivered or 15 calendar days from the date Notice of Termination is sent by another method. The Notice of Termination shall be personally delivered, sent by certified mail return receipt requested, or sent by fax and deposited in a post office box regularly maintained by the United States Postal Service in a postage pre-paid envelope.

iv. *Grounds for Default.* The City shall have the right to declare the Contractor in default:

1. Upon a breach by the Contractor of a material term or condition of this Contract, including unsatisfactory performance of the services;

2. Upon insolvency or the commencement of any proceeding by or against the Contractor, either voluntarily or involuntarily, under the Bankruptcy Code or relating to the insolvency, receivership, liquidation, or composition of the Contractor for the benefit of creditors;

3. If the Contractor refuses or fails to proceed with the services under the Contract when and as directed by the Commissioner;

4. If the Contractor or any of its officers, directors, partners, five percent (5%) or greater shareholders, principals, or other employee or person substantially involved in its activities are indicted or convicted after execution of the Contract under any state or federal law of any of the following:

a. a criminal offense incident to obtaining or attempting to obtain or performing a public or private contract;

b. fraud, embezzlement, theft, bribery, forgery, falsification, or destruction of records, or receiving stolen property;

c. a criminal violation of any state or federal antitrust law;

d. violation of the Racketeer Influence and Corrupt Organization Act, 18 U.S.C. § 1961 et seq., or the Mail Fraud Act, 18 U.S.C. § 1341 et seq., for acts in connection with the submission of bids or proposals for a public or private contract;

e. conspiracy to commit any act or omission that would constitute grounds for conviction or liability under any statute described in subparagraph (d) above; or

f. an offense indicating a lack of business integrity that seriously and directly affects responsibility as a City vendor.

5. If the Contractor or any of its officers, directors, partners, five percent (5%) or greater shareholders, principals, or other employee or person substantially involved in its activities are subject to a judgment of civil liability under any state or federal antitrust law for acts or omissions in connection with the submission of bids or proposals for a public or private contract; or

6. If the Contractor or any of its officers, directors, partners, five percent (5%) or greater shareholders, principals, or other employee or person substantially involved in its activities makes or causes to be made any false, deceptive, or fraudulent material statement, or fail to make a required material statement in any bid, proposal, or application for City or other government work.

v. *Basis of Settlement*. The City shall not incur or pay any further obligation pursuant to this Contract beyond the termination date set by the City in its Notice of Termination. The City shall pay for satisfactory services provided in accordance with this Contract prior to the termination date. In addition, any obligation necessarily incurred by the Contractor on account of this Contract prior to receipt of notice of termination and falling due after the termination date shall be paid by the City in accordance with the terms of this Contract. In no event shall such obligation be construed as including any lease or other occupancy agreement, oral or written, entered into between the Contractor and its landlord.

b. **Termination for Convenience**. The City shall have the right to terminate the Contract for convenience, by providing written notice ("Notice of Termination") according to the following procedure. The Notice of Termination shall specify the applicable provision(s) under which the Contract is terminated and the effective date of termination, which shall be not less than 10 calendar days from the date the notice is personally delivered or 15 days from the date the Notice of Termination is sent by another method. The Notice of Termination shall be personally delivered, sent by certified mail return receipt requested, or sent by fax and deposited in a post office box regularly maintained by the United States Postal Service in a postage pre-paid envelope. The basis of settlement shall be as provided for in subparagraph (v) of paragraph (a) of subdivision (2) of this section (B), above.

c. **Termination due to Force Majeure**

i. For purposes of this Contract, a force majeure event is an act or event beyond the control and without any fault or negligence of the Contractor ("Force Majeure Event"). Force Majeure Events may include, but are not limited to, fire, flood, earthquake, storm or other natural disaster, civil commotion, war, terrorism, riot, and labor disputes not brought about by any act or omission of the Contractor.

ii. In the event the Contractor cannot comply with the terms of the Contract (including any failure by the Contractor to make progress in the performance of the services) because of a Force Majeure Event, then the Contractor may ask the Commissioner to excuse the nonperformance and/or terminate the Contract. If the Commissioner, in his or her reasonable discretion, determines that the Contractor cannot comply with the terms of the Contract because of a Force Majeure Event, then the Commissioner shall excuse the nonperformance and may terminate the Contract. Such a termination shall be deemed to be without cause.

iii. If the City terminates the Contract due to a Force Majeure Event, the basis of settlement shall be as provided for in subparagraph (v) of paragraph (a) of subdivision (2) of this section (B), above.

d. **Termination due to Reductions in Federal Funding**

i. This Contract is funded in whole or in part by funds secured from the Federal government. Should the Federal government reduce or discontinue such funds, the City shall have, in its sole discretion, the right to terminate this Contract in whole or in part, or to reduce the funding and/or level of services of this Contract caused by such action by the Federal government, including, in the case of the reduction option, but not limited to, the reduction or elimination of programs, services or service components; the reduction or elimination of contract-reimbursable staff or staff-hours, and corresponding reductions in the budget of this Contract and in the total amount payable under this Contract. Any reduction in funds pursuant to this paragraph shall be accompanied by an appropriate reduction in the services performed under this Contract.

ii. In the case of the reduction option referred to in subparagraph (i), above, any such reduction shall be effective as of the date set forth in a written notice thereof to the Contractor, which shall be not less than 30 calendar

days from the date of such notice. Prior to sending such notice of reduction, the City shall advise the Contractor that such option is being exercised and afford the Contractor an opportunity to make within seven calendar days any suggestion(s) it may have as to which program(s), service(s), service component(s), staff or staff-hours might be reduced or eliminated, provided, however, that the City shall not be bound to utilize any of the Contractor's suggestions and that the City shall have sole discretion as to how to effectuate the reductions.

iii. If the City reduces funding pursuant to this paragraph (d), the basis of settlement shall be as provided for in subparagraph (v) of paragraph (a) of subdivision (2) of this section (B), above.

C. Standard Provisions. The Contractor shall comply with, include in its subcontracts, and cause its subcontractors to comply with the following provisions, as applicable:

(1) *Reporting.* Contractor shall be required to produce and deliver such reports relating to the services performed under the Contract as may be required by the Awarding Entity, City or any other State or Federal governmental agency with jurisdiction.

(2) *Non-Discrimination*. Contractor shall not violate any Federal, State, or City law prohibiting discrimination concerning employment, the provision of services, and, if applicable, housing, funded by this Contract.

(3) *Environmental Protection.* If the Contract is in excess of $150,000, the Contractor shall comply with all applicable standards, orders, or regulations issued under the Clean Air Act (42 U.S.C. § 7401-7671q), Federal Water Pollution Control Act as amended (33 U.S.C. §§ 1251-1387), Section 508 of the Clean Water Act (33 U.S.C. § 1368), Executive Order 11738, and Environmental Protection Agency regulations (provisions of 40 CFR Part 50 and 2 CFR Part 1532 related to the Clean Air Act and Clean Water Act). Violations must be reported to the Federal Agency and the Regional Office of the Environmental Protection Agency (EPA). The Contractor shall include this provision in all subcontracts.

(4) *Energy Efficiency*. The Contractor shall comply with mandatory standards and policies relating to energy efficiency that are contained in the New York State energy conservation plan issued in compliance with the Energy Policy Conservation Act (Pub. L. 94-163).

(5) *Debarment.* The Contractor certifies that neither it nor its principals or affiliates are currently in a state of debarment, suspension, exclusion, disqualification, or other ineligible status as a result of prior performance, failure, fraud, or violation of City or New York State laws. The Contractor further certifies that neither it nor its principals or affiliates are debarred, suspended, excluded, disqualified, or otherwise ineligible for participation in Federal assistance programs. The City reserves the right to terminate this Contract if knowledge of debarment, suspension, exclusion, disqualification or other ineligibility has been withheld by the Contractor.

(6) *Lobbying.* The Contractor certifies, to the best of its knowledge and belief, that:

(a) No Federal appropriated funds have been paid or will be paid, by or on behalf of it, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or

employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement;

(b) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, it will complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," (which is available on the HUD website or here: https://www.hudexchange.info/resources/documents/HUD-Form-Sflll.pdf) in accordance with its instructions; and

(c) It will require that the language of this Section (C)(6) be included in the award documents for all subcontracts at all tiers.

(d) This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. § 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

(7) *Solid Waste Disposal Act*. Pursuant to 2 CFR § 200.323, Contractor must comply with section 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act. The requirements of Section 6002 include procuring only items designated in guidelines of the Environmental Protection Agency (EPA) at 40 CFR Part 247 that contain the highest percentage of recovered materials practicable, consistent with maintaining a satisfactory level of competition, where the purchase price of the item exceeds $ 10,000 or the value of the quantity acquired during the preceding fiscal year exceeded $ 10,000; procuring solid waste management services in a manner that maximizes energy and resource recovery; and establishing an affirmative procurement program for procurement of recovered materials identified in the EPA guidelines.

(8) *Prohibition on certain telecommunications and video surveillance services or equipment*.

(a) The Contractor is prohibited from obligating or expending loan or grant funds to:
(1) Procure or obtain;
(2) Extend or renew a contract to procure or obtain; or
(3) Enter into a contract (or extend or renew a contract) to procure or obtain equipment, services, or systems that uses covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system. As described in Public Law 115–232, section 889, covered telecommunications equipment is telecommunications equipment produced by Huawei Technologies Company or ZTE Corporation (or any subsidiary or affiliate of such entities).

(i) For the purpose of public safety, security of government facilities, physical security surveillance of critical infrastructure, and other national security purposes, video surveillance and telecommunications equipment produced by Hytera Communications Corporation, Hangzhou Hikvision Digital Technology Company, or Dahua Technology Company (or any subsidiary or affiliate of such entities).
(ii) Telecommunications or video surveillance services provided by such entities or using such equipment.
(iii) Telecommunications or video surveillance equipment or services produced or provided by an entity that the Secretary of Defense, in consultation with the Director of the National Intelligence or the Director of the Federal Bureau of Investigation, reasonably believes to be an entity owned or controlled by, or otherwise connected to, the government of a covered foreign country.

(b) In implementing the prohibition under Public Law 115–232, section 889, subsection (f), paragraph (1), heads of executive agencies administering loan, grant, or subsidy programs shall prioritize available funding and technical support to assist affected businesses, institutions and organizations as is reasonably necessary for those affected entities to transition from covered communications equipment and services, to procure replacement equipment and services, and to ensure that communications service to users and customers is sustained.

(c) The Contractor's attention is directed to Public Law 115–232, section 889 for additional information.

(d) The Contractor's attention is directed to § 200.471.

(9) Domestic preferences for procurements.

(a) As appropriate and to the extent consistent with law, the Contractor should, to the greatest extent practicable under a Federal award, provide a preference for the purchase, acquisition, or use of goods, products, or materials produced in the United States (including but not limited to iron, aluminum, steel, cement, and other manufactured products). The requirements of this section must be included in all subawards including all contracts and purchase orders for work or products under this award.

(b) For purposes of this section:
(1) ''Produced in the United States'' means, for iron and steel products, that all manufacturing processes, from the initial melting stage through the application of coatings, occurred in the United States.
(2) ''Manufactured products'' means items and construction materials composed in whole or in part of nonferrous metals such as aluminum; plastics and polymer-based products such as polyvinyl chloride pipe; aggregates such as concrete; glass, including optical fiber; and lumber.

(10) *Documentation of Costs.* All costs shall be supported by properly executed payrolls, time records, invoices, or vouchers, or other official documentation evidencing in

proper detail the nature and propriety of the charges. All checks, payrolls, invoices, contracts, vouchers, orders or other accounting documents, pertaining in whole or in part to the Agreement, shall be clearly identified and regularly accessible.

(11) *Records Retention.* The Contractor shall retain all books, documents, papers, and records relating to the services performed under the Contract in accordance with 2 C.F.R. §200.334.

(12) *Records Access.* The Contractor shall grant access to the City, State or any other pass-through entity, the Federal Agency, Inspectors General, and/or the Comptroller General of the United States, or any of their duly authorized representatives, to any books, documents, papers, and/or records of the Contractor that are pertinent to the Contract for the purpose of making audits, examinations, excerpts, and transcripts. The right also includes timely and reasonable access to the Contractor's personnel for the purpose of interview and discussion related to such documents. The rights of access in this section are not limited to the required retention period but last as long as the records are retained.

(13) *Small Firms, M/WBE Firms, and Labor Surplus Area Firms.* Contractor shall take the following affirmative steps in the letting of subcontracts, if subcontracts are to be let, in order to ensure that minority firms, women's business enterprises, and labor surplus area firms are used when possible:

a. Placing qualified small and minority businesses and women's business enterprises on solicitation lists;

b. Assuring that small and minority businesses, and women's business enterprises are solicited whenever they are potential sources;

c. Dividing total requirements, when economically feasible, into smaller tasks or quantities to permit maximum participation by small and minority businesses, and women's business enterprises;

d. Establishing delivery schedules, where the requirement permits, which encourage participation by small and minority businesses, and women's business enterprises; and

e. Using the services and assistance of the Small Business Administration, and the Minority Business Development Agency of the Department of Commerce.

(14) *Intangible Property*.

a. Pursuant to 2 CFR § 200.315, the Government reserves a royalty-free, non-exclusive, and irrevocable right to obtain, reproduce, publish, or otherwise use, and to authorize others to use, for Government purposes: (a) the copyright in any work developed under the Contract or subcontract; and (b) any rights of copyright to which a Contractor purchases ownership with grant support.

b. Any reports, documents, data, photographs, deliverables, and/or other materials produced pursuant to the Contract ("Copyrightable Materials"), and any and all drafts and/or other preliminary materials in any format related to such items produced pursuant to the contract, shall upon their creation become the exclusive property of the City. The Copyrightable Materials shall be considered "work-made-for-hire" within the meaning and purview of Section 101 of the United States Copyright Act, 17 U.S.C. § 101, and the City shall be the copyright owner thereof and of all aspects, elements and components thereof in which copyright protection might exist. To the extent that the Copyrightable Materials do not qualify as "work-made-for-hire," the Contractor hereby irrevocably transfers, assigns and conveys exclusive copyright ownership in and to the Copyrightable Materials to the City, free and clear of any liens, claims, or other encumbrances. The Contractor shall retain no copyright or intellectual property interest in the Copyrightable Materials. The Copyrightable Materials shall be used by the Contractor for no purpose other than in the performance of this Contract without the prior written permission of the City. The City may grant the Contractor a license to use the Copyrightable Materials on such terms as determined by the City and set forth in the license.

c. The Contractor acknowledges that the City may, in its sole discretion, register copyright in the Copyrightable Materials with the United States Copyright Office or any other government agency authorized to grant copyright registrations. The Contractor shall fully cooperate in this effort, and agrees to provide any and all documentation necessary to accomplish this.

d. The Contractor represents and warrants that the Copyrightable Materials: (i) are wholly original material not published elsewhere (except for material that is in the public domain); (ii) do not violate any copyright law; (iii) do not constitute defamation or invasion of the right of privacy or publicity; and (iv) are not an infringement, of any kind, of the rights of any third party. To the extent that the Copyrightable Materials incorporate any non-original material, the Contractor has obtained all necessary permissions and clearances, in writing, for the use of such non-original material under this Contract, copies of which shall be provided to the City upon execution of this Contract.

e. The Contractor shall promptly and fully report to the City any discovery or invention arising out of or developed in the course of performance of this Contract and the Contractor shall promptly and fully report to the Government to make a determination as to whether patent protection on such invention shall be sought and how the rights in the invention or discovery, including rights under any patent issued thereon, shall be disposed of and administered in order to protect the public interest.

f. If the Contractor publishes a work dealing with any aspect of performance under this Agreement, or with the results of such performance, the City shall have a royalty-free, non-exclusive irrevocable license to reproduce, publish, or otherwise use such work for City governmental purposes.

D. Special Provisions for Construction Contracts. If this Contract involves Construction work, design for Construction, or Construction services, all such work or services performed by the Contractor and its subcontractors shall be subject to the following requirements in addition to those set forth above in paragraphs (A), (B), and (C):

(1) *Federal Labor Standards.* The Contractor will comply with the following:

a. The Davis-Bacon Act (40 U.S.C. §§ 3141-3148): If required by the federal program legislation, in Construction contracts involving an excess of $2000, and subject to any other federal program limitations, all laborers and mechanics must be paid at a rate not less than those determined by the Secretary of Labor to be prevailing for the City, which rates are to be provided by the City. These wage rates are a federally mandated minimum only, and will be superseded by any State or City requirement mandating higher wage rates. The Contractor also agrees to comply with Department of Labor Regulations pursuant to the Davis-Bacon Act found in 29 CFR Parts 1, 3, 5 and 7 which enforce statutory labor standards provisions.

b. If required by the federal program legislation and subject to any other federal program limitations, Sections 103 and 107 of the Contract Work Hours and Safe Standards Act (40 U.S.C. §§ 3701-3708), which provides that no laborer or mechanic shall be required or permitted to work more than eight hours in a calendar day or in excess of forty hours in any workweek, unless such laborer or mechanic is paid at an overtime rate of 1½ times his/her basic rate of pay for all hours worked in excess of these limits, under any Construction contract costing in excess of $2000. In the event of a violation of this provision, the Contractor shall not only be liable to any affected employee for his/her unpaid wages, but shall be additionally liable to the United States for liquidated damages.

c. Copeland Anti-Kickback Act: If required by the federal program legislation and subject to any other federal program limitations: (i) the Contractor shall comply with 18 U.S.C. § 874, 40 U.S.C. § 3145, and the requirements of 29 C.F.R. Part 3 as may be applicable, which are incorporated by reference into this Contract; (ii) The Contractor or subcontractor shall insert in any subcontracts the language contained in (i) of this subsection and also a clause requiring the subcontractors to include the language in subsection (i) in any lower tier subcontracts. The Contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor of this subsection; and (iii) A breach of

this subsection may be grounds for termination of the Contract, and for debarment as a contractor or subcontractor as provided in 29 C.F.R. § 5.12.

d. If this Contract involves Construction work, design for Construction, or Construction services, a more complete detailed statement of Federal Labor Standards annexed hereto as FEDERAL EXHIBIT 2. If there is a conflict between the provisions of this Article D and FEDERAL EXHIBIT 2, the stricter standard shall be controlling.

(2) *Equal Employment Opportunity*. Executive Order 11246, as amended, and as supplemented in Department of Labor regulations (41 CFR chapter 60) for Construction contracts or subcontracts in excess of $10,000. The Contractor shall include the notice found at FEDERAL EXHIBIT I in all Construction subcontracts. For the purposes of the Equal Opportunity Construction Contract Specifications and Clause below, the term "Construction Work" means the construction, rehabilitation, alteration, conversion, extension, demolition or repair of buildings, highways, or other changes or improvements to real property, including facilities providing utility services. The term also includes the supervision, inspection, and other onsite functions incidental to the actual construction .

Standard Federal Equal Employment Opportunity Construction Contract Specifications for Contracts and Subcontracts in Excess of $10,000.

1. As used in these specifications:

a. "Covered area" means the geographical area described in the solicitation from which this Contract resulted;

b. "Director" means Director, Office of Federal Contract Compliance Programs, United States Department of Labor, or any person to whom the Director delegates authority;

c. "Employer identification number" means the Federal Social Security number used on the Employer's Quarterly Federal Tax Return, U.S. Treasury Department Form 941.

d. "Minority" includes:

(i) Black (all persons having origins in any of the Black African racial groups not of Hispanic origin);

(ii) Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish Culture or origin, regardless of race);

(iii) Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands); and

(iv) American Indian or Alaskan Native (all persons having origins in any of the original peoples of North America and maintaining identifiable tribal affiliations through membership and participation or community identification).

2. Whenever the Contractor, or any subcontractor at any tier, subcontracts a portion of the work involving any Construction trade, it shall physically include in each subcontract in excess of $10,000 the provisions of these specifications and the Notice which contains

the applicable goals for minority and female participation and which is set forth in the solicitations from which this Contract resulted.

3. If the Contractor is participating (pursuant to 41 CFR 60-4.5) in a Hometown Plan approved by the U.S. Department of Labor in the covered area either individually or through an association, its affirmative action obligations on all work in the Plan area (including goals and timetables) shall be in accordance with that Plan for those trades which have unions participating in the Plan. Contractors must be able to demonstrate their participation in and compliance with the provisions of any such Hometown Plan. Each Contractor or subcontractor participating in an approved Plan is individually required to comply with its obligations under the EEO clause, and to make a good faith effort to achieve each goal under the Plan in each trade in which it has employees. The overall good faith performance by other Contractors or subcontractors toward a goal in an approved Plan does not excuse any covered Contractor's or subcontractor's failure to take good faith efforts to achieve the Plan goals and timetables.

4. The Contractor shall implement the specific affirmative action standards provided in paragraphs 7 a through p of these specifications. The goals set forth in the solicitation from which this Contract resulted are expressed as percentages of the total hours of employment and training of minority and female utilization the Contractor should reasonably be able to achieve in each Construction trade in which it has employees in the covered area. Covered Construction Contractors performing Construction Work in geographical areas where they do not have a Federal or federally assisted Construction contract shall apply the minority and female goals established for the geographical areas where the work is being performed. Goals are published periodically in the Federal Register in notice form, and such notices may be obtained from any Office of Federal Contract Compliance Programs office or from Federal procurement contracting officers. The Contractor is expected to make substantially uniform progress in meeting its goals in each craft during the period specified.

5. Neither the provisions of any collective bargaining agreement, nor the failure by a union with whom the Contractor has a collective bargaining agreement, to refer either minorities or women shall excuse the Contractor's obligations under these specifications, Executive Order 11246 as amended, or the regulations promulgated pursuant thereto.

6. In order for the nonworking training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees must be employed by the Contractor during the training period, and the Contractor must have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees must be trained pursuant to training programs approved by the U.S. Department of Labor.

7. The Contractor shall take specific affirmative actions to ensure equal employment opportunity. The evaluation of the Contractor's compliance with these specifications shall be based upon its effort to achieve maximum results from its actions. The Contractor shall document these efforts fully, and shall implement affirmative action steps at least as extensive as the following:

a. Ensure and maintain a working environment free of harassment, intimidation, and coercion at all sites, and in all facilities at which the Contractor's employees are assigned to work. The Contractor, where possible, will assign two or more women to each Construction project. The Contractor shall specifically ensure that all foremen, superintendents, and other on-site supervisory personnel are aware of and carry

out the Contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at such sites or in such facilities.

b. Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when the Contractor or its unions have employment opportunities available, and maintain a record of the organization's responses.

c. Maintain a current file of the names, addresses and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment source or community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the Contractor by the union or, if referred, not employed by the Contractor, this shall be documented in the file with the reason therefor, along with whatever additional actions the Contractor may have taken.

d. Provide immediate written notification to the Director when the union or unions with which the Contractor has a collective bargaining agreement has not referred to the Contractor a minority person or woman sent by the Contractor, or when the Contractor has other information that the union referral process has impeded the Contractor's efforts to meet its obligations.

e. Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the Contractor's employment needs, especially those programs funded or approved by the Department of Labor. The Contractor shall provide notice of these programs to the sources compiled under 7b above.

f. Disseminate the Contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the Contractor in meeting its EEO obligations; by including it in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper, annual report, etc.; by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the company EEO policy on bulletin boards accessible to all employees at each location where Construction Work is performed.

g. Review, at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination or other employment decisions including specific review of these items with on-site supervisory personnel such as Superintendents, General Foremen, etc., prior to the initiation of Construction Work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.

h. Disseminate the Contractor's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing the Contractor's EEO policy with other Contractors and subcontractors with whom the Contractor does or anticipates doing business.

i. Direct its recruitment efforts, both oral and written, to minority, female and community organizations, to schools with minority and female students and to minority and female recruitment and training organizations serving the Contractor's recruitment area and employment needs. Not later than one month prior to the date for the acceptance

of applications for apprenticeship or other training by any recruitment source, the Contractor shall send written notification to organizations such as the above, describing the openings, screening procedures, and tests to be used in the selection process.

j. Encourage present minority and female employees to recruit other minority persons and women and, where reasonable, provide after school, summer and vacation employment to minority and female youth both on the site and in other areas of a Contractor's work force.

k. Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR Part 60-3.

l. Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.

m. Ensure that seniority practices, job classifications, work assignments and other personnel practices, do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the Contractor's obligations under these specifications are being carried out.

n. Ensure that all facilities and company activities are non-segregated except that separate or single-user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.

o. Document and maintain a record of all solicitations of offers for subcontracts from minority and female Construction contractors and suppliers, including circulation of solicitations to minority and female Contractor associations and other business associations.

p. Conduct a review, at least annually, of all supervisor's adherence to and performance under the Contractor's EEO policies and affirmative action obligations.

8. Contractors are encouraged to participate in voluntary associations which assist in fulfilling one or more of their affirmative action obligations (7a through p). The efforts of a Contractor association, joint Contractor-union, Contractor-community, or other similar group of which the Contractor is a member and participant, may be asserted as fulfilling any one or more of its obligations under 7a through p of these specifications provided that the Contractor actively participates in the group, makes every effort to assure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the Program are reflected in the Contractor's minority and female work force participation, makes a good faith effort to meet its individual goals and timetables, and can provide access to documentation which demonstrates the effectiveness of actions taken on behalf of the Contractor. The obligation to comply, however, is the Contractor's and failure of such a group to fulfill an obligation shall not be a defense for the Contractor's noncompliance.

9. A single goal for minorities and a separate single goal for women have been established. The Contractor, however, is required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and non-minority. Consequently, the Contractor may be in violation of the Executive Order if a particular group is employed in a substantially disparate manner (for example, even though the Contractor has achieved its goals for women generally, the Contractor may be in violation of the Executive Order if a specific minority group of women is underutilized).

10. The Contractor shall not use the goals and timetables or affirmative action standards to discriminate against any person because of race, color, religion, sex, sexual orientation, gender identity, or national origin.

11. The Contractor shall not enter into any Subcontract with any person or firm debarred from Government contracts pursuant to Executive Order 11246 or suspended or is otherwise excluded from or ineligible for participation in federal assistance programs.

12. The Contractor shall carry out such sanctions and penalties for violation of these specifications and of the Equal Opportunity Clause, including suspension, termination and cancellation of existing subcontracts as may be imposed or ordered pursuant to Executive Order 11246, as amended, and its implementing regulations, by the Office of Federal Contract Compliance Programs. Any Contractor who fails to carry out such sanctions and penalties shall be in violation of these specifications and Executive Order 11246, as amended.

13. The Contractor, in fulfilling its obligations under these specifications, shall implement specific affirmative action steps, at least as extensive as those standards prescribed in paragraph 7 of these specifications, so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the Contractor fails to comply with the requirements of the Executive Order, the implementing regulations, or these specifications, the Director shall proceed in accordance with 41 CFR 60-4.8.

14. The Contractor shall designate a responsible official to monitor all employment related activity to ensure that the company EEO policy is being carried out, to submit reports relating to the provisions hereof as may be required by the Government and to keep records. Records shall at least include for each employee the name, address, telephone numbers, Construction trade, union affiliation if any, employee identification number when assigned, social security number, race, sex, status (e.g., mechanic, apprentice trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and locations at which the work was performed. Records shall be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, Contractors shall not be required to maintain separate records.

15. Nothing herein provided shall be construed as a limitation upon the application of other laws which establish different standards of compliance or upon the application of requirements for hiring of local or other areas residents (e.g., those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

(3) **Equal Opportunity Clause** (for contracts for Construction Work) required by 41 CFR § 60-1.4(b).

During the performance of this contract, the Contractor agrees as follows:

(1) The Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, sexual orientation, gender identity, or national origin. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, sexual orientation, gender identity, or national origin. Such action shall include, but not be limited to the following:

Employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places,

available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.

(2) The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, or national origin.

(3) The Contractor will not discharge or in any other manner discriminate against any employee or applicant for employment because such employee or applicant has inquired about, discussed, or disclosed the compensation of the employee or applicant or another employee or applicant. This provision shall not apply to instances in which an employee who has access to the compensation information of other employees or applicants as a part of such employee's essential job functions discloses the compensation of such other employees or applicants to individuals who do not otherwise have access to such information, unless such disclosure is in response to a formal complaint or charge, in furtherance of an investigation, proceeding, hearing, or action, including an investigation conducted by the employer, or is consistent with the Contractor's legal duty to furnish information.

(4) The Contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers' representatives of the Contractor's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

(5) The Contractor will comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.

(6) The Contractor will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the administering agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

(7) In the event of the Contractor's noncompliance with the nondiscrimination clauses of this contract or with any of the said rules, regulations, or orders, this contract may be canceled, terminated, or suspended in whole or in part and the Contractor may be declared ineligible for further Government contracts or federally assisted construction contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.

(8) The Contractor will include the portion of the sentence immediately preceding paragraph (1) and the provisions of paragraphs (1) through (8) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The Contractor will take such action with respect to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provisions, including sanctions for noncompliance:

Provided, however, that in the event a Contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the

administering agency, the Contractor may request the United States to enter into such litigation to protect the interests of the United States.

E. Rights to Inventions. [Special Provisions For Contracts Involving Experimental, Developmental, or Research Work.]

(1) If this Contract involves the performance of experimental, developmental, or research work by the Contractor or its subcontractors, and the entity performing such work is a Nonprofit Organization or Small Business Firm as defined below, the following provisions apply in addition to those set forth above in paragraphs (a), (b ad (c), unless the Contract specifically states that this provision is superseded:

a. *Definitions*. The following definitions apply to this section (D).

i. "Invention" means any invention or discovery which is or may be patentable or otherwise protectable under Title 35 of the United States Code, or any novel variety of plant which is or may be protected under the Plant Variety Protection Act (7 U.S.C. § 2321 *et seq.*).

ii. "Subject invention" means any invention of the Contractor conceived or first actually reduced to practice in the performance of work under this Contract, provided that in the case of a variety of plant, the date of determination (as defined in section 41(d) of the Plant Variety Protection Act, 7 U.S.C. 2401(d)) must also occur during the period of Contract performance.

iii. "Practical Application" means to manufacture in the case of a composition or product, to practice in the case of a process or method, or to operate in the case of a machine or system; and, in each case, under such conditions as to establish that the invention is being utilized and that its benefits are, to the extent permitted by law or government regulations, available to the public on reasonable terms.

iv. "Made" when used in relation to any invention means the conception or first actual reduction to practice of such invention.

v. "Small Business Firm" means a small business concern as defined at section 2 of Pub. L. 85-536 (15 U.S.C. 632) and implementing regulations of the Administrator of the Small Business Administration. For the purpose of this clause, the size standards for small business concerns involved in government procurement and subcontracting at 13 CFR 121.3-8 and 13 CFR 121.3-12, respectively, will be used.

vi. "Nonprofit Organization" means a university or other institution of higher education or an organization of the type described in section 501(c)(3) of the Internal

Revenue Code of 1954 (26 U.S.C. 501(c) and exempt from taxation under section 501(a) of the Internal Revenue Code (25 U.S.C. 501(a)) or any nonprofit scientific or educational organization qualified under a state nonprofit organization statute.

vii. "Statutory period" means the one-year period before the effective filing date of a claimed invention during which exceptions to prior art exist per 35 U.S.C. 102(b), as amended by the Leahy-Smith America Invents Act, Public Law 112-29.

viii. The "contractor" means any person, small business firm or nonprofit organization, or as set forth in section 1, paragraph (b)(4) of Executive Order 12591, as amended, any business firm regardless of size, which is a party to a funding agreement.

b. *Allocation of Principal Rights*. The Contractor may retain the entire right, title, and interest throughout the world to each subject invention subject to the provisions of this clause and 35 U.S.C. 203. With respect to any subject invention in which the Contractor retains title, the Federal government shall have a nonexclusive, nontransferable, irrevocable, paid-up license to practice or have practiced for or on behalf of the United States the subject invention throughout the world.

c. *Invention Disclosure ,Election of Title and Filing of Patent Application by Contractor*.

i. The Contractor will disclose each subject invention to the City and the Federal Agency within two months after the inventor discloses it in writing to Contractor personnel responsible for patent matters. Such disclosure shall be in the form of a written report and shall identify the contract under which the invention was made and the inventor(s). It shall be sufficiently complete in technical detail to convey a clear understanding to the extent known at the time of the disclosure, of the nature, purpose, operation, and the physical, chemical, biological or electrical characteristics of the invention. The disclosure shall also identify any publication, on sale or public use of the invention and whether a manuscript describing the invention has been submitted for publication and, if so, whether it has been accepted for publication at the time of disclosure. In addition, after such disclosure, the Contractor will promptly notify the City and the Federal Agency of the acceptance of any manuscript describing the invention for publication or of any on sale or public use planned by the Contractor.

ii. The Contractor will elect in writing whether or not to retain title to any such invention by notifying the City and the Federal Agency within two years of disclosure to the City and the Federal Agency. However, in any case where a patent, a printed publication, public use, sale, or other availability to the public has initiated the one year statutory period wherein valid patent protection can still be obtained in the United States, the period for election of title may be shortened by the Federal Agency to a date that is no more than 60 days prior to the end of the statutory period.

iii. The Contractor will file its initial patent application on a subject invention to which it elects to retain title within one year after election of title or, if earlier, prior to the end of any statutory period wherein valid patent protection can be obtained in the United States after a publication, on sale, or public use. If the Contractor files a provisional application as its initial patent application, it shall file a non-provisional application within 10 months of the filing of the provisional application. The Contractor will file patent applications in additional countries or international patent offices within earlier ten months of the first filed patent application or six months from the date permission is granted by the Commissioner of Patents to file foreign patent applications where such filing has been prohibited by a Secrecy Order.

iv. For any subject invention with Federal agency and contractor co-inventors, where the Federal agency employing such co-inventor determines that it would be in the interest of the government, pursuant to 35 U.S.C. 207(a)(3), to file an initial patent application on the subject invention, the Federal agency employing such co-inventor, at its discretion and in consultation with the contractor, may file such application at its own expense, provided that the contractor retains the ability to elect title pursuant to 35 U.S.C. 202(a).

v. Requests for extension of the time for disclosure, election, and filing under paragraphs (i), (ii), and (iii) of this clause may, at the discretion of the Federal agency, be granted. When a contractor has requested an extension for filing a non-provisional application after filing a provisional application, a one-year extension will be granted unless the Federal agency notifies the contractor within 60 days of receiving the request.

d. Conditions When the Government May Obtain Title

The Contractor will convey to the Federal Agency, upon written request, title to any subject invention --

i. If the Contractor fails to disclose or elect title to the subject invention within the times specified in (c) of this clause, or elects not to retain title., .

ii. In those countries in which the Contractor fails to file patent applications within the times specified in paragraph (c) of this clause; provided, however, that if the Contractor has filed a patent application in a country after the times specified in (c) of this clause, but prior to its receipt of the written request of the Federal Agency, the Contractor shall continue to retain title in that country.

iii. In any country in which the Contractor decides not to continue the prosecution of any non-provisional patent application for, to pay a maintenance annuity or renewal fee on, or to defend in a reexamination or opposition proceeding on, a patent on a subject invention.

e. Minimum Rights to Contractor and Protection of the Contractor Right to File

i. The Contractor will retain a nonexclusive royalty-free license throughout the world in each subject invention to which the Government obtains title, except if the Contractor fails to disclose the invention within the times specified in (c), above. The Contractor's license extends to its domestic subsidiary and affiliates, if any, within the corporate structure of which the Contractor is a party and includes the right to grant sublicenses of the same scope to the extent the Contractor was legally obligated to do so at the time the Contract was awarded. The license is transferable only with the approval of the Federal Agency except when transferred to the successor of that party of the Contractor's business to which the invention pertains.

ii. The Contractor's domestic license may be revoked or modified by the funding Federal Agency to the extent necessary to achieve expeditious practical application of the subject invention pursuant to an application for an exclusive license submitted in accordance with applicable provisions at 37 CFR Part 404 and agency licensing regulations (if any). This license will not be revoked in that field of use or the geographical areas in which the Contractor has achieved practical application and continues to make the benefits of the invention reasonably accessible to the public. The license in any foreign country may be revoked or modified at the discretion of the funding Federal Agency to the extent the Contractor,

its licensees, or the domestic subsidiaries or affiliates have failed to achieve practical application in that foreign country.

iii. Before revocation or modification of the license, the funding Federal Agency will furnish the Contractor a written notice of its intention to revoke or modify the license, and the Contractor will be allowed thirty days (or such other time as may be authorized by the funding Federal Agency for good cause shown by the Contractor) after the notice to show cause why the license should not be revoked or modified. The Contractor has the right to appeal, in accordance with applicable regulations in 37 CFR Part 404 and Federal Agency regulations (if any) concerning the licensing of Government-owned inventions, any decision concerning the revocation or modification of the license.

f. Contractor Action to Protect the Government's Interest

i. The Contractor agrees to execute or to have executed and promptly deliver to the Federal Agency all instruments necessary to (i) establish or confirm the rights the Government has throughout the world in those subject inventions to which the Contractor elects to retain title, and (ii) convey title to the Federal Agency when requested under paragraph (d) above and to enable the Government to obtain patent protection throughout the world in that subject invention.

ii. The Contractor agrees to require, by written agreement, its employees, other than clerical and nontechnical employees, to disclose promptly in writing to personnel identified as responsible for the administration of patent matters and in a format suggested by the Contractor each subject invention made under contract in order that the Contractor can comply with the disclosure provisions of paragraph (c), of this clause, to assign to the Contractor the entire right, title and interest in and to each subject invention made under Contract, and to execute all papers necessary to file patent applications on subject inventions and to establish the Government's rights in the subject inventions. This disclosure format should require, as a minimum, the information required by paragraph (c)(1) of this clause. The Contractor shall instruct such employees through employee agreements or other suitable educational programs on the importance of reporting inventions in sufficient time to permit the filing of patent applications prior to U.S. or foreign statutory bars.

iii. For each subject invention, the contractor will, no less than 60 days prior to the expiration of the statutory deadline, notify the Federal agency of any decision: Not to continue the prosecution of a non-provisional patent application; not to pay a maintenance, annuity or renewal fee; not to defend in a reexamination or opposition proceeding on a patent, in any country; to request, be a party to, or take action in a trial proceeding before the Patent Trial and Appeals Board of the U.S. Patent and Trademark Office, including but not limited to post-grant review, review of a business method patent, inter partes review, and derivation proceeding; or to request, be a party to, or take action in a non-trial submission of art or information at the U.S. Patent and Trademark Office, including but not limited to a pre-issuance submission, a post-issuance submission, and supplemental examination..

iv. The Contractor agrees to include, within the specification of any United States patent applications and any patent issuing thereon covering a subject invention, the following statement, "This invention was made with government support under (identify the contract) awarded by (identify the Federal Agency). The government has certain rights in the invention."

g. Subcontracts

i. The Contractor will include this clause, suitably modified to identify the parties, in all subcontracts, regardless of tier, for experimental, developmental or research work to be performed by a subcontractor. The subcontractor will retain all rights provided for the Contractor in this clause, and the Contractor will not, as part of the consideration for awarding the subcontract, obtain rights in the subcontractor's subject inventions.

ii. The Contractor will include in all other subcontracts, regardless of tier, for experimental developmental or research work the patent rights clause required by 2 CFR § 200.315(c) and Appendix II to 2 CFR Part 200.

iii. In the case of subcontracts, at any tier, when the prime award with the Federal Agency was a contract (but not a grant or cooperative agreement), the Agency, subcontractor, and the Contractor agree that the mutual obligations of the parties created by this clause constitute a contract between the subcontractor and the Federal Agency with respect to the matters covered by the clause; provided, however, that nothing in this paragraph is intended to confer any jurisdiction under the Contract

Disputes Act in connection with proceedings under paragraph (j) of this clause.

h. *Reporting on Utilization of Subject Inventions.* The Contractor agrees to submit on request periodic reports no more frequently than annually on the utilization of a subject invention or on efforts at obtaining such utilization that are being made by the Contractor or its licensees or assignees. Such reports shall include information regarding the status of development, date of first commercial sale or use, gross royalties received by the Contractor, and such other data and information as the Federal Agency may reasonably specify. The Contractor also agrees to provide additional reports as may be requested by the Federal Agency in connection with any march-in proceeding undertaken by the Federal Agency in accordance with paragraph (j) of this clause. As required by 35 U.S.C. § 202(c)(5), the Federal Agency agrees it will not disclose such information to persons outside the Government without permission of the Contractor.

i. *Preference for United States Industry.* Notwithstanding any other provision of this clause, the Contractor agrees that neither it nor any assignee will grant to any person the exclusive right to use or sell any subject inventions in the United States unless such person agrees that any products embodying the subject invention or produced through the use of the subject invention will be manufactured substantially in the United States. However, in individual cases, the requirement for such an agreement may be waived by the Federal Agency upon a showing by the Contractor or its assignee that reasonable but unsuccessful efforts have been made to grant licenses on similar terms to potential licensees that would be likely to manufacture substantially in the United States or that under the circumstances domestic manufacture is not commercially feasible.

j. *March-in Rights*. The Contractor agrees that with respect to any subject invention in which it has acquired title, the Federal Agency has the right in accordance with the procedures in 37 CFR § 401.6 and any supplemental regulations of the Federal Agency to require the Contractor, an assignee or exclusive licensee of a subject invention to grant a nonexclusive, partially exclusive, or exclusive license in any field of use to a responsible applicant or applicants, upon terms that are reasonable under the circumstances, and if the Contractor, assignee, or exclusive licensee refuses such a request the Federal Agency has the right to grant such a license itself if the Federal Agency determines that:

i. Such action is necessary because the Contractor or assignee has not taken, or is not expected to take within a reasonable time, effective steps to achieve practical application of the subject invention in such field of use.

ii. Such action is necessary to alleviate health or safety needs which are not reasonably satisfied by the Contractor, assignee or their licensees;

iii. Such action is necessary to meet requirements for public use specified by Federal regulations and such requirements are not reasonably satisfied by the Contractor, assignee or licensees; or

iv. Such action is necessary because the agreement required by paragraph (i) of this clause has not been obtained or waived or because a licensee of the exclusive right to use or sell any subject invention in the United States is in breach of such agreement.

k. *Special Provisions for Contracts with Nonprofit Organizations.* If the Contractor is a nonprofit organization, it agrees that:

i. Rights to a subject invention in the United States may not be assigned without the approval of the Federal Agency, except where such assignment is made to an organization which has as one of its primary functions the management of inventions, provided that such assignee will be subject to the same provisions as the Contractor;

ii. The Contractor will share royalties collected on a subject invention with the inventor, including Federal employee co-inventors (when the Federal Agency deems it appropriate) when the subject invention is assigned in accordance with 35 U.S.C. § 202(e) and 37 CFR § 401.10;

iii. The balance of any royalties or income earned by the Contractor with respect to subject inventions, after payment of expenses (including payments to inventors) incidental to the administration of subject inventions, will be utilized for the support of scientific research or education; and

iv. It will make efforts that are reasonable under the circumstances to attract licensees of subject invention that are Small Business Firms and that it will give a preference to a Small Business Firm when licensing a subject invention if the Contractor determines that the Small Business Firm has a plan or proposal for marketing the invention which, if executed, is equally as likely to bring the invention to practical application as any plans or proposals from applicants that are not Small Business Firms; provided, that the Contractor is also satisfied that the Small Business Firm has the capability and resources to carry out its plan or proposal. The decision whether to give a preference in any specific case will be at the

discretion of the Contractor. However, the Contractor agrees that the Federal Aency may review the Contractor's licensing program and decisions regarding Small Business applicants, and the Contractor will negotiate changes to its licensing policies, procedures, or practices with the Federal Agency when the Federal Agency's review discloses that the Contractor could take reasonable steps to implement more effectively the requirements of this paragraph (k)(iv). In accordance with 37 CFR 401.7, the Federal agency or the contractor may request that the Secretary review the contractor's licensing program and decisions regarding small business applicants.

l. *Communication.* The central point of contact at the Federal Agency for communications on matters relating to this clause may be obtained from the City upon request.

FEDERAL EXHIBIT 1

NOTICE TO BIDDERS

NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION TO ENSURE EQUAL EMPLOYMENT OPPORTUNITY (EXECUTIVE ORDER 11246, as amended) FOR ALL CONSTRUCTION CONTRACTS AND SUB-CONTRACTS IN EXCESS OF $10,000.

1. The Offeror's or Bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Opportunity Construction Contract Specifications" set forth herein.

2. The goals and timetables for minority and female participation, expressed in percentage terms for the Contractor's aggregate workforce in each trade on all Construction Work in the covered area, are as follows:

Goals and Timetables for Minorities

Trade	Goal (percent)		
Electricians	9.0	to	10.2
Carpenters	27.6	to	32.0
Steamfitters	12.2	to	13.5
Metal Lathers	24.6	to	25.6
Painters	28.6	to	26.0
Operating Engineers	25.6	to	26.0
Plumbers	12.0	to	14.5
Iron Workers (structural)	25.9	to	32.0
Elevator Constructors	5.5	to	6.5
Bricklayers	13.4	to	15.5
Asbestos Workers	22.8	to	28.0
Roofers	6.3	to	7.5
Iron Workers (ornamental)	22.4	to	23.0
Cement Masons	23.0	to	27.0
Glazers	16.0	to	20.0
Plasterers	15.8	to	18.0
Teamsters	22.0	to	22.5
Boilermakers	13.0	to	15.5
All Other	16.4	to	17.5

Goals and Timetables for Women

From April 1, 1980 until the present	6.9

These goals are applicable to all the Contractor's Construction Work (whether or not it is Federal or federally assisted) performed in the covered area. If the Contractor performs Construction Work in a geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the Contractor also is subject to the goals for both its federally involved and nonfederally involved Construction.

The Contractor's compliance with the Executive Order and the regulations in 41 CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4.3(a), and its efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the Contractor shall made a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, the Executive Order and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

3. The Contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs within 10 working days of award of any Construction subcontract in excess of $10,000 at any tier for Construction Work under the contract resulting from this solicitation. The notification shall list the name, address and telephone number of the subcontractor; employer identification number of the subcontractor; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the contract is to be performed.

4. As used in this Contract, the "covered area" is the City of New York.

FEDERAL EXHIBIT 2

[Insert Exhibit 2 for applicable federal grant program]

FEDERAL EMERGENCY MANAGEMENT AGENCY &
FEDERAL LABOR STANDARDS PROVISIONS

FEDERAL EMERGENCY MANAGEMENT AGENCY ("FEMA") RIDER
(1/20/2021)

For use with contracts funded by the FEMA Grant and Cooperative Agreement Programs, including the Public Assistance Program

(This Rider should not be used with contracts funded by the following FEMA Programs: Emergency Management Preparedness Grant Program, Homeland Security Grant Program, Nonprofit Security Grant Program, Tribal Homeland Security Grant Program, Port Security Grant Program, and Transit Security Grant Program. This Rider should be accompanied by the Uniform Federal Contract Provisions Rider for Federally Funded Procurement Contracts.)

1. Suspension and Debarment. Section C(5) of the Uniform Federal Contract Provisions Rider for Federally Funded Procurement Contracts is supplemented with the following provisions:

   (a) This contract is a covered transaction for purposes of 2 C.F.R. Parts 180 and 3000. As such, the Contractor is required to verify that none of the Contractor, its principals (defined at 2 C.F.R. § 180.995), or its affiliates (defined at 2 C.F.R. § 180.905) are excluded (defined at 2 C.F.R. § 180.940) or disqualified (defined at 2 C.F.R. § 180.935). By entering into this contract, the Contractor certifies that it is in compliance with 2 C.F.R. Parts 180 and 3000.

   (b) The Contractor must comply with 2 C.F.R. Part 180, subpart C and 2 C.F.R. Part 3000, subpart C during the term of this contract and must include a requirement to comply with these regulations in any lower tier covered transaction it enters into.

   (c) The certification in paragraph (a), above, and section C(5) of the Uniform Federal Contract Provisions Rider for Federally Funded Procurement Contracts is a material representation of fact relied upon by the City of New York. If it is later determined that the Contractor did not comply with 2 C.F.R. Part 180, subpart C and 2 C.F.R. Part 3000, subpart C, in addition to remedies available to the City of New York and, if applicable, the State of New York, the Federal Government may pursue available remedies, including but not limited to suspension and/or debarment.

2. Davis-Bacon Act. For the purposes of Section D(1)(a) of the Uniform Federal Contract Provisions Rider, compliance with the Davis-Bacon Act (40 U.S.C. §§ 3141-3148) is not required of the Contractor pursuant to FEMA regulations. However, if this Contract is funded by another federal funding source (e.g., the U.S. Department of Housing and Urban Development CDBG or CDBG-DR programs), compliance with the Davis-Bacon Act is required to the extent required by law and as set forth in the contract documents.

3. Rights to Inventions Made Under a Contract or Agreement. Section E of the Uniform Federal Contract Provisions Rider for Federally Funded Procurement Contracts does not apply to the following FEMA Programs: Public Assistance Program, Hazard Mitigation Grant Program, Fire Management Assistance Grant Program, Crisis Counseling Assistance and Training Grant Program, Disaster Case Management Program, and Federal Assistance to Individuals and Households – Other Needs Assistance Grant Program.

4. Copeland "Anti-Kickback" Act. The Contractor shall comply with provisions of the Copeland "Anti-Kickback" Act (18 U.S.C. § 874) as delineated in the Uniform Federal Contract Provisions Rider, FEMA Exhibit 2, Section (A).

5. Contract Work Hours and Safety Standards Act. The Contractor shall comply with the provisions of the Contract Work Hours and Safety Standards Act as delineated in the Uniform Federal Contract Provisions Rider, FEMA Exhibit 2, Section (B).

6. Access to Records.

    (a) The Contractor agrees to provide the City of New York, the FEMA Administrator, the Comptroller General of the United States, or any of their authorized representatives access to any books, documents, papers, and records of the Contractor which are directly pertinent to this contract for the purposes of making audits, examinations, excerpts, and transcriptions.

    (b) The Contractor agrees to permit any of the foregoing parties to reproduce said documents by any means or to copy excerpts and transcriptions as reasonably needed.

    (c) The Contractor agrees to provide the FEMA Administrator or his/her authorized representative access to construction or other work sites pertaining to the work being completed under the contract.

    (d) In compliance with the Disaster Recovery Act of 2018, the City of New York and the Contractor acknowledge and agree that no language in this contract is intended to prohibit audits or internal reviews by the FEMA Administrator or the Comptroller General of the United States.

7. Logos. The Contractor shall not use DHS seal(s), logos, crests, or reproductions of flags or likenesses of DHS agency officials without specific FEMA pre-approval.

8. Compliance with Law. The Contractor acknowledges that FEMA financial assistance will be used to fund all or a portion of the contract. The Contractor will comply with all applicable federal law, regulations, executive orders, FEMA policies, procedures, and directives.

9. Federal Government not a Party. The Contractor acknowledges and understands that the Federal Government is not a party to this contract and is not subject to any obligations or liabilities to the City, Contractor or any other party pertaining to any matter resulting from the contract.

10. False Claims. The Contractor acknowledges that 31 U.S.C. Chap. 38 applies to the Contractor's actions pertaining to this contract.

EXHIBIT 2
Federal Labor Standards Provisions (Non-Davis Bacon)[1]
Federal Emergency Management Agency
(10/27/2015)

Applicability: The Project or Program to which the construction work covered by this contract pertains is being assisted by the United States of America and the following Federal Labor Standards Provisions are included in this Contract pursuant to the provisions applicable to such Federal assistance.

A. Compliance with the Copeland "Anti-Kickback" Act.

1. **Contractor.** The contractor shall comply with 18 U.S.C. § 874, 40 U.S.C. § 3145, and the requirements of 29 C.F.R. pt. 3 as may be applicable, which are incorporated by reference into this contract.

2. **Subcontracts.** The contractor or subcontractor shall insert in any subcontracts the clause in paragraph 1 above and such other clauses as the FEMA may by appropriate instructions require, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all of these contract clauses.

3. **Breach.** A breach of the contract clauses above may be grounds for termination of the contract, and for debarment as a contractor and subcontractor as provided in 29 C.F.R. § 5.12.

B. **Compliance with the Contract Work Hours and Safety Standards Act.** The provisions of this Section B are applicable where the amount of the prime contract exceeds $100,000.

1. **Overtime requirements.** No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-halftimes the basic rate of pay for all hours worked in excess of forty hours in such workweek.

2. **Violation; liability for unpaid wages; liquidated damages.** In the event of any violation of the clause set forth in paragraph (1) of this Section B the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In

[1] This version of Exhibit 2 applies to contracts funded by FEMA Grant and Cooperative Agreement Programs, including the Public Assistance Program. Do not use this version of Exhibit 2 in connection with FEMA programs that are subject to the Davis-Bacon Act; such programs are the Emergency Management Preparedness Grant Program, the Homeland Security Grant Program, Nonprofit Security Grant Program, Tribal Homeland Security Grant Program, Port Security Grant Program, and Transit Security Grant Program.

addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1) of this section, in the sum of $10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1) of this section.

3. **Withholding for unpaid wages and liquidated damages.** The City of New York shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated §damages as provided in the clause set forth in paragraph (2) of this section.

4. **Subcontracts.** The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraphs (1) through (4) of this Section B and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (1) through (4) of this section B.

C. **Health and Safety.** The provisions of this paragraph C are applicable where the amount of the prime contract exceeds $100,000.

1. No laborer or mechanic shall be required to work in surroundings or under working conditions which are unsanitary, hazardous, or dangerous to his health and safety as determined under construction safety and health standards promulgated by the Secretary of Labor by regulation.

2. The Contractor shall comply with all regulations issued by the Secretary of Labor pursuant to Title 29 Part 1926 and failure to comply may result in imposition of sanctions pursuant to the Contract Work Hours and Safety Standards Act, (Public Law 91-54, 83 Stat 96). 40 USC 3701 et seq.

3. The contractor shall include the provisions of this paragraph in every subcontract so that such provisions will be binding on each subcontractor. The contractor shall take such action with respect to any subcontractor as FEMA or the Secretary of Labor shall direct as a means of enforcing such provisions.

CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF INFRASTRUCTURE

ADDENDA CONTROL SHEET

BID SUBMISSION DATE/ TIME: December 11, 2024; between 8:30am and 11:00am
BID OPENING DATE/ TIME: December 11, 2024; 11:30am

PROJECT No. : SANDRDHK

TITLE: **RED HOOK COASTAL RESILIENCY (RHCR)**
ATLANTIC BASIN AND BEARD STREET

ADDENDA ISSUED	NO. OF DWG	DATE	APPROVED BY: SPECS UNIT	APPROVED BY: GENERAL COUNSEL
#1 Questions from Bidders and Responses to Questions Revisions to Documents; Revisions to PASSPort.	26	11/21/2024		11/21/24

THE CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF INFRASTRUCTURE

11/21/2024

ADDENDUM No. # 1

FOR FURNISHING ALL LABOR AND MATERIAL NECESSARY AND REQUIRED FOR:

85025B0025– SANDRDHK

RED HOOK COASTAL RESILIENCY (RHCR) ATLANTIC BASIN AND BEARD STREET

This addendum is issued for the purpose of amending the requirements of the Bid and Contract Documents and is hereby made a part of said Bid and Contract Documents to the same extent as though it were originally included therein.

The bidder is advised that the items listed below apply to the project:

1. **Bidders Questions and Responses to Questions:**
   See Attachment A.

2. **Revisions to Documents:**
   See Attachment B.

3. **Revisions to PASSPort forms:**
   See Attachment C.

Transferring Data Between Rounds of an RFX: A new document titled “Transferring Data Between Rounds of an RFX” has been added to the Documents section of the View RFx tab. Please refer to this document when an addendum has been issued. Note: Whenever an addendum is issued, the RFX item grid will be cleared. You can import the work you have already done by following the steps on this document.

DDC strongly advises vendors to finalize and submit bids 48 hours prior to due date and time. The City is not responsible for technical issues (e.g. internet connection, power outages, technology malfunction, computer errors, etc.) related to bid submissions.

If additional information is required, please contact the Department of Design and Construction, Contract Section via PASSPort (in the Discussions with Buyer section).

Richard Jones, PE CWI
Executive Director, Executive-Engineering Services

DDC PROJECT #: **SANDRDHK**

PROJECT NAME: **RED HOOK COASTAL RESILIENCY (RHCR) ATLANTIC BASIN AND BEARD STREET**

ATTACHMENT A - BIDDERS QUESTIONS AND DDC RESPONSES

No.	Bidders Questions	DDC Responses
1	The bid date for this solicitation is stated as 1/7/2025 at 11:00 AM on The City Record Online posting, but is stated as 12/11/24 at 11:00 AM on the PASSPort portal. Please confirm what the correct bid due date and time for submission of this project is.	The correct bid due date and time for submission of this project is 12/11/24 between 8:30am and 11:00am.
2	In reviewing the provided plans it appears set 08 is missing. Please provide this drawing set or confirm it is not needed.	Site Plans and Details Drawing set added.
3	In reviewing the provided plan sets they total to 826 sheets out of the stated 852. Please advise to these missing sheets.	Site Plans and Details Drawing set added.
4	Although on Passport they are not sorted, it appears that there is no volume "8". We believe Volume 8 should include the Site Drawings (26 sheets). Would you please check to make sure whether all documents were properly uploaded to the Passport and if necessary provide any missing volumes.	Site Plans and Details Drawing set added.
5	Pre Bid Conference When will the NYCDDC have a Pre Bid Conference?	Please refer to Attachment C of this Addendum.

DDC PROJECT #: **SANDRDHK**

PROJECT NAME: **RED HOOK COASTAL RESILIENCY (RHCR) ATLANTIC BASIN AND BEARD STREET**

ATTACHMENT B – REVISIONS TO THE DOCUMENTS

Site Plans and Details Drawing set added.

DDC PROJECT #: **SANDRDHK**

PROJECT NAME: **RED HOOK COASTAL RESILIENCY (RHCR) ATLANTIC BASIN AND BEARD STREET**

ATTACHMENT C – REVISIONS TO PASSPORT FORMS

This Addendum initiates Round 2 of the procurement.

Please note that numbering of addenda is independent of rounds.

Setup Changes:

Added Pre-bid Conference information:

DATE/ TIME: December 2, 2024; 11:00am
Link: https://teams.microsoft.com/l/meetup-join/19%3ameeting_NTRjMWUzM2MtNDQ1OS00ZGIzLThmNDctNTljYTFkODUyNmNj%40thread.v2/0?context=%7b%22Tid%22%3a%2232f56fc7-5f81-4e22-a95b-15da66513bef%22%2c%22Oid%22%3a%224aa80690-123b-4c5f-9b78-ff92c9ea019c%22%7d

Questionnaire Changes:

None

Item Grid Changes:

None

CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF INFRASTRUCTURE

ADDENDA CONTROL SHEET

BID SUBMISSION DATE/ TIME: January 3, 2025 between 8:30am and 11:00am
BID OPENING DATE/ TIME: January 3, 2025; 11:30am

PROJECT No. : SANDRDHK

TITLE: **RED HOOK COASTAL RESILIENCY (RHCR)**
ATLANTIC BASIN AND BEARD STREET

ADDENDA ISSUED	NO. OF DWG	DATE	APPROVED BY: SPECS UNIT	APPROVED BY: GENERAL COUNSEL
#1 Questions from Bidders and Responses to Questions Revisions to Documents; Revisions to PASSPort Forms	26	11/20/2024		
#2 Revised Bid Opening Date; Questions from Bidders and Responses to Questions; Revisions to Documents; Revisions to PASSPort Forms .	0	12/05/2024		12/5/24

THE CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF INFRASTRUCTURE

12/05/2024

ADDENDUM No. # 2

FOR FURNISHING ALL LABOR AND MATERIAL NECESSARY AND REQUIRED FOR:

85025B0025– SANDRDHK

RED HOOK COASTAL RESILIENCY (RHCR) ATLANTIC BASIN AND BEARD STREET

This addendum is issued for the purpose of amending the requirements of the Bid and Contract Documents and is hereby made a part of said Bid and Contract Documents to the same extent as though it were originally included therein.

The bidder is advised that the items listed below apply to the project:

1. **The Bid Opening for the contract described above scheduled for December 11, 2024, at 11:30 am is rescheduled to January 3, 2025, at 11:30 am**

2. **Bidders Questions and Responses to Questions:**
   See Attachment A.

3. **Revisions to Documents:**
   See Attachment B.

4. **Revisions to PASSPort forms:**
   See Attachment C.

Transferring Data Between Rounds of an RFX: A new document titled “Transferring Data Between Rounds of an RFX” has been added to the Documents section of the View RFx tab. Please refer to this document when an addendum has been issued. Note: Whenever an addendum is issued, the RFX item grid will be cleared. You can import the work you have already done by following the steps on this document.

DDC strongly advises vendors to finalize and submit bids 48 hours prior to due date and time. The City is not responsible for technical issues (e.g. internet connection, power outages, technology malfunction, computer errors, etc.) related to bid submissions.

If additional information is required, please contact the Department of Design and Construction, Contract Section via PASSPort (in the Discussions with Buyer section).

Richard Jones, PE CWI
Executive Director, Executive-Engineering Services

DDC PROJECT #: **SANDRDHK**

PROJECT NAME: **RED HOOK COASTAL RESILIENCY (RHCR) ATLANTIC BASIN AND BEARD STREET**

ATTACHMENT A - BIDDERS QUESTIONS AND DDC RESPONSES

No.	Bidders Questions	DDC Responses
1	Can the City please release a copy of the plan holder's list for SANDRDHK?	The plan holder's list for SANDRDHK was issued for this addendum.
2	In Section A of the Special Experience Requirements, the “Best Management Practice Work” option is blackened, but neither the “Restoration Specialist (Construction Monitor)” nor the “Erosion and Sediment Control Licensed/Certified Professional” sub-boxes are blackened. Do we still need to submit a Qualification Form for Best Management Practice Work when neither sub-option is checked?	Yes, a Qualification Form for Best Management Practice Work is required.
3	I am reviewing the section on passport called Minimum qualifications. It is asking for the special experience of the bidder and says there is a list of requirements under the SER file which is attached to the right. I do not see an attachment.	Please refer to the “Documents Tab” for the attachment titled “SANDRDHK SER Requirements (Infra)_2024-10-09.”
4	Inside of Manage responses, no blank pdf. forms are provided, just a tab for offering a Positive response that the Min Pre Qual Form has been Uploaded, Please provide a Minimum Qualification form, or direct us to make the affirmation that we are qualified.	Please refer to the “Documents Tab” for the FORM titled “QUALIFICATION FORM 2021-04.”
5	We would like to request a postponement for this project, due to the complexity of the work and takeoffs, as well as the impending holidays, which will drastically affect our ability to receive subcontractor and vendor quotes prior to the end of the year. Please consider a minimum of 4 - 6 weeks' postponement, due to the size of the project and the multiple holidays upcoming. Thank you.	The Bid date has been postponed to January 3, 2025.

No.	Bidders Questions	DDC Responses
6	Referencing Volume 3 of 3, page 3 of 774: Please provide the web link to the NYC DOT Division of Street Lighting Specifications.	Please refer to other available options on the Specifications and Standards of NYC page (page 3 of 774).

DDC PROJECT #: **SANDRDHK**

PROJECT NAME: **RED HOOK COASTAL RESILIENCY (RHCR) ATLANTIC BASIN AND BEARD STREET**

ATTACHMENT B – REVISIONS TO THE DOCUMENTS

1) Planholder List Uploaded

2) Pre-Bid Conference Presentation Uploaded

3) Pre-Bid Conference Attendance List Uploaded

4) Volume 2 Updated →
- New York City Mayoral Executive Order No. 39 Rider updated.

5) Volume 3 Updated →
- S-Pages
  - Page S-57 updated for B7. WORK RESTRICTIONS

DDC PROJECT #: **SANDRDHK**

PROJECT NAME: **RED HOOK COASTAL RESILIENCY (RHCR) ATLANTIC BASIN AND BEARD STREET**

ATTACHMENT C – REVISIONS TO PASSPORT FORMS

This Addendum initiates Round 3 of the procurement.

Please note that numbering of addenda is independent of rounds.

Bid Opening Date Changes:

The Bid Opening for the contract described above scheduled for December 11, 2024, at 11:30 am is rescheduled to January 3, 2025, at 11:30 am

Questionnaire Changes:

None

Item Grid Changes:

None

CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF INFRASTRUCTURE

ADDENDA CONTROL SHEET

BID SUBMISSION DATE/ TIME: January 10, 2025 between 8:30am and 11:00am
BID OPENING DATE/ TIME: January 10, 2025; 11:30am

PROJECT No. : SANDRDHK

TITLE: **RED HOOK COASTAL RESILIENCY (RHCR)**
ATLANTIC BASIN AND BEARD STREET

ADDENDA ISSUED	NO. OF DWG	DATE	APPROVED BY: SPECS UNIT	APPROVED BY: GENERAL COUNSEL
#1 Questions from Bidders and Responses to Questions Revisions to Documents; Revisions to PASSPort Forms	26	11/20/2024		
#2 Revised Bid Opening Date; Questions from Bidders and Responses to Questions; Revisions to Documents; Revisions to PASSPort Forms .	0	12/05/2024		
#3 Revised Bid Opening Date; Questions from Bidders and Responses to Questions; Revisions to Documents; Revisions to PASSPort Forms.	0	12/13/2024		12/13/24

THE CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF INFRASTRUCTURE

12/13/2024

ADDENDUM No. # 3

FOR FURNISHING ALL LABOR AND MATERIAL NECESSARY AND REQUIRED FOR:

85025B0025– SANDRDHK

RED HOOK COASTAL RESILIENCY (RHCR) ATLANTIC BASIN AND BEARD STREET

This addendum is issued for the purpose of amending the requirements of the Bid and Contract Documents and is hereby made a part of said Bid and Contract Documents to the same extent as though it were originally included therein.

The bidder is advised that the items listed below apply to the project:

1. **The Bid Opening for the contract described above scheduled for January 03, 2025, at 11:30 am is rescheduled to January 10, 2025, at 11:30 am**

2. **Bidders Questions and Responses to Questions:**
   See Attachment A.

3. **Revisions to Documents:**
   See Attachment B.

4. **Revisions to PASSPort forms:**
   See Attachment C. **THE BIDDER IS ADVISED TO BEGIN THE NYSDOL REGISTRATION PROCESS EARLY TO PREVENT ISSUES WITH BID SUBMISSION**

Transferring Data Between Rounds of an RFX: A new document titled “Transferring Data Between Rounds of an RFX” has been added to the Documents section of the View RFx tab. Please refer to this document when an addendum has been issued. Note: Whenever an addendum is issued, the RFX item grid will be cleared. You can import the work you have already done by following the steps on this document.

DDC strongly advises vendors to finalize and submit bids 48 hours prior to due date and time. The City is not responsible for technical issues (e.g. internet connection, power outages, technology malfunction, computer errors, etc.) related to bid submissions.

If additional information is required, please contact the Department of Design and Construction, Contract Section via PASSPort (in the Discussions with Buyer section).

Signed For, Nasrin Akter

Richard Jones, PE CWI
Chief Engineer, Executive-Engineering Services

DDC PROJECT #: **SANDRDHK**

PROJECT NAME: **RED HOOK COASTAL RESILIENCY (RHCR) ATLANTIC BASIN AND BEARD STREET**

ATTACHMENT A - BIDDERS QUESTIONS AND DDC RESPONSES

No.	Bidders Questions	DDC Responses
1	Please provide specifications for Item GI-2.08 HDPE Barrier	Item GI-2.08 HDPE Barrier is a standard item. Refer to the Standard Green Infrastructure Specifications, August 1, 2024
2	Does this project have Buy America requirements? Are there any domestic requirements for steel?	There are no Buy America requirements for this project. There are no domestic requirements for steel requirements for this project.
3	Please reference Volume 3 Section HW-900. As per this section please confirm that in order to receive any additional incentive payment, work would have to be completed prior to the accelerated completion date of 1065 CCD from Notice to Proceed. Please confirm that if work is completed between the accelerated substantial completion date of 1065 CCD from NTP and substantial completion date of 1095 CCD no additional compensation will be provided	Confirmed.
4	Please reference Volume 3 Section HW-900. It states that the potential Incentive Payment No.1 is $1,000,000.00. In the bid schedule provided Seq. No 249, Item Number HW-900 Allowance for Maximum Incentive for Early Completion, there is a fixed sum of $997,872.90. Please advise if this is an error and if it should be $1,000,000.00.	$1,000,000.00 is correct. The bid schedule has been updated.
5	The Utility Plans and Profiles (UTL & UPR Drawings) do not provide all the necessary elevations for the pipes required to perform accurate quantity	Please refer to the Highway Profile Grid/interval Elevation Scale of Utility Profile Drawings to calculate the Invert of any points for the calculation.

No.	Bidders Questions	DDC Responses
	take-offs, particularly the piping connected to new catch basins. Please provide this information	
6	Many of the utilities must be relocated for the new structures to be installed. The 8 phases shown on the MTP are not reflective of the realities of working on a project of this scope. We intend to present a comprehensive schedule to complete the project on schedule, Will the construction managers be able to allow changes that will allow the project to completed with flexibility due to field conditions as they arise.	The contractor may propose a comprehensive schedule with the phases they deem appropriate to complete the construction without delays. Approval of the schedule will be per Section 1.06.35 of the Standard Highway Specifications.
7	The following Bid Items quantities are to the hundredth decimal point. Bid items 106, 107, 112, 115, 117, 118, 121, 123, 125, 126, 132-140, 197, 202-204, 282. Please confirm these are correct, or fix accordingly.	These item quantities have been adjusted to full numbers in the Bid Schedule.
8	Please advise where the contractor should carry the extra cost for interference of overhead utilities for the sheet pile installation. In addition to overhead interference, there are several instances on the highway plans where the existing curb line is being pushed back toward to the property line, thus requiring the utility poles to be relocated There is no JB item for this	Refer to Article G on page JB-A9 in Volume 3.
9	In the Bid Schedule excel sheet, Seq. No. 267 – Item RHCR 6.35T1P108 – SLIDING GATE AT 118 BEARD STREET (108' LONG, BLOCK 604, LOT 46) is given a unit measurement of EACH. However, other similar sliding gate items all have a unit measurement of LS. Please clarify the correct unit of measurement for Seq. No. 267 – Item RHCR 6.35T1P108.	The unit of the item RHCR 6.35T1P108 – SLIDING GATE AT 118 BEARD STREET (108' LONG, BLOCK 604, LOT 46) has been adjusted to LS in the Bid Schedule.

No.	Bidders Questions	DDC Responses
10	The bid schedule has items that are not integer values such as 6.25RS, 6.26, 6.34 ACTP, 6.40 CR, 6.43 D as examples. Please consider rounding these items	These item quantities have been adjusted to full numbers in the Bid Schedule.

DDC PROJECT #: **SANDRDHK**

PROJECT NAME: **RED HOOK COASTAL RESILIENCY (RHCR) ATLANTIC BASIN AND BEARD STREET**

ATTACHMENT B – REVISIONS TO THE DOCUMENTS

1) Bid Schedule Revised →

- Items 6.25RS, 6.26, 6.34 ACTP, 6.40 CR, 6.43 D, 6.44, 6.49, 6.53, 6.59 P, 6.59 PF, 6.82 A, 6.82 B, 6.83 AB, 6.83 AR, 6.83 BA, 6.83 BB, 6.86 AA, 6.86 BA, 6.87, 7.35, 7.88 AB, 7.88 AC, 7.88 AD, RHCR-10 Quantities have been rounded up to full number.

- The unit of the item RHCR 6.35T1P108 – SLIDING GATE AT 118 BEARD STREET (108' LONG, BLOCK 604, LOT 46) has been adjusted to LS instead of Each

- Item 7.14, Sustainable Construction Incentive, has been set to a price no less than (PNL) $200k

- Item 9.95 GBS changed from 18 Each to 876 CF

DDC PROJECT #: **SANDRDHK**

PROJECT NAME: **RED HOOK COASTAL RESILIENCY (RHCR) ATLANTIC BASIN AND BEARD STREET**

ATTACHMENT C – REVISIONS TO PASSPORT FORMS

This Addendum initiates Round 4 of the procurement.

Please note that numbering of addenda is independent of rounds.

Bid Opening Date Changes:

The Bid Opening for the contract described above scheduled for January 03, 2024, at 11:30 am is rescheduled to January 10, 2025, at 11:30 am

Questionnaire Changes:

Added NYSDOL Public Work Contractor and Subcontractor Registry requirements.

Item Grid Changes:

None

CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF INFRASTRUCTURE

ADDENDA CONTROL SHEET

BID SUBMISSION DATE/ TIME: January 10, 2025 between 8:30am and 11:00am
BID OPENING DATE/ TIME: January 10, 2025; 11:30am

PROJECT No. : SANDRDHK

TITLE: **RED HOOK COASTAL RESILIENCY (RHCR)**
ATLANTIC BASIN AND BEARD STREET

ADDENDA ISSUED	NO. OF DWG	DATE	APPROVED BY: SPECS UNIT	APPROVED BY: GENERAL COUNSEL
#1 Questions from Bidders and Responses to Questions Revisions to Documents; Revisions to PASSPort Forms	26	11/20/2024		
#2 Revised Bid Opening Date; Questions from Bidders and Responses to Questions; Revisions to Documents; Revisions to PASSPort Forms .	0	12/05/2024		
#3 Revised Bid Opening Date; Questions from Bidders and Responses to Questions; Revisions to Documents; Revisions to PASSPort Forms .	0	12/13/2024		
#4 Questions from Bidders and Responses to Questions; Revisions to Documents;	163	12/20/2024		12/20/24

THE CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF INFRASTRUCTURE

12/20/2024

ADDENDUM No. # 4

FOR FURNISHING ALL LABOR AND MATERIAL NECESSARY AND REQUIRED FOR:

85025B0025– SANDRDHK

RED HOOK COASTAL RESILIENCY (RHCR) ATLANTIC BASIN AND BEARD STREET

This addendum is issued for the purpose of amending the requirements of the Bid and Contract Documents and is hereby made a part of said Bid and Contract Documents to the same extent as though it were originally included therein.

The bidder is advised that the items listed below apply to the project:

1. **Bidders Questions and Responses to Questions:**
   See Attachment A.

2. **Revisions to Documents:**
   See Attachment B.

3. **Revisions to PASSPort forms:**
   No Attachment C. is Included

Transferring Data Between Rounds of an RFX: A new document titled “Transferring Data Between Rounds of an RFX” has been added to the Documents section of the View RFx tab. Please refer to this document when an addendum has been issued. Note: Whenever an addendum is issued, the RFX item grid will be cleared. You can import the work you have already done by following the steps on this document.

DDC strongly advises vendors to finalize and submit bids 48 hours prior to due date and time. The City is not responsible for technical issues (e.g. internet connection, power outages, technology malfunction, computer errors, etc.) related to bid submissions.

If additional information is required, please contact the Department of Design and Construction, Contract Section via PASSPort (in the Discussions with Buyer section).

Richard Jones, PE CWI
Executive Director, Executive-Engineering Services

DDC PROJECT #: **SANDRDHK**

PROJECT NAME: **RED HOOK COASTAL RESILIENCY (RHCR) ATLANTIC BASIN AND BEARD STREET**

ATTACHMENT A - BIDDERS QUESTIONS AND DDC RESPONSES

No.	Bidders Questions	DDC Responses
1	Addendum #3 states that certain bid item quantities were rounded up to whole numbers, but there are a few that have not been corrected. • Please see item 7.35 this is still listed as a quantity of 61,579.92 LF in the excel bid schedule, please provide the correct number rounded to a whole number • Please see item 6.52 CG this is still listed as a quantity of 12,671010 P/HR in the excel bid schedule, please provide the correct number rounded to a whole number	The bid schedule has been updated.
2	Addendum #3 states the allowance for HW-900 Incentive payments was changed to $1,000,000.00, but this is still listed at $997,872.90 in the extended amount in the revised excel bid schedule named addendum #3. Please advise.	$1,000,000.00 is correct. The bid schedule has been updated.
3	Please confirm if walls RW07 and RW08 are part of this contract. If so, please provide profiles and details of each Retaining wall.	Confirmed; The profiles and details for these two retaining walls have been revised in Drawings STR50, STR51, and SIT23 through SIT26.
4	Bid Item 6.35 OH-1 'RESIDENTIAL OVERHEAD DOOR' cannot be found on any of the drawing plans. Please advise on location of work.	Please refer to Drawing SIT03/SIT26 (Sheet 269) for the location and Drawing SIT05/SIT26 (Sheet 271) for the details.
5	Bid Item RHCR 8.23BD-1 'CUSTOM BULKHEAD DOOR (BLOCK 610/LOT 23)' cannot be located on any of the drawing plans. Please advise on location of work.	Please refer to Drawing SIT03/SIT26 (Sheet 269) for the location and Drawing SIT05/SIT26 (Sheet 271) for the details.

No.	Bidders Questions	DDC Responses
6	In regards to bid item '4.11 AS' quantity, the quantity on the drawings is significantly lower than what is shown on bid schedule. The only location that shows this bid item work is at Gate 5. Please confirm if this is the only location for this bid item to be used and please confirm quantity on bid item is correct.	Please refer to the STR package for additional 4.11 AS quantity items.
7	See bid item 17. Lightweight Fill. Item No. 4.11 A. Where is this located on plans?	Please refer to typical sections Drawings TYP01 to TYP18.
8	Please clarify the proper pay item for the excavation of both flood walls and retaining walls. The drawings indicate in certain circumstances where 6.02 AAN is used and other drawings where 4.11 AS is shown	Item Number 4.11 AS should be used for all excavation of both flood walls and retaining walls.
9	Please provide structural details for flood gates ie) member sizes, connection details, etc.	See Drawings DPY01 to DPY24 Sheet set.
10	Please clarify which fill item 4.11 CA or 4.11 A will be used to raise the existing roadway elevations. There are several conflicts between which item applies	Item Number 4.11 CA will be used for Road Raising.
11	Drawing TYP01 Summit Street Typical Section conflicts with STR54 cross section DD (Fortifed Security Fence) with respect to the fortified fence. Drawing TYP01 shows the fence remaining and the STR54 shows it to be removed and replaced. Please confirm whether or not the fortified fence is to be removed and replaced and if so, which bid items will cover this work	Drawings TYP01 and PLN01 show limits of removal versus remaining.
12	Refer to ESC drawings. The drawings call for bid items for both Drainage Structure Inlet Protection (ITEM 209.20120010) and Tree Guard (ITEM 615.3301001). These items are missing from the bid item list.	The legend has been updated with revised item numbers in the 04_Erosion and Sediment Control Plans, Drawings ESC02 to ESC150.

No.	Bidders Questions	DDC Responses
13	"Please provide profile elevations for the follow areas and drawings: Red hook container terminal (new internal 12" E.S.V.P) Drawing # UTL02 new 15" E.S.V.P branch int sewer encased in conc. on piles- Imlay and Bowne St intersection Drawing # UTL02 Commerce Street Drawing # UTL03 Clinton Wharf Drawing # UTL06	Refer to Drawing UPR01 for profile elevations for "new 15" E.S.V.P. branch int. sewer encased in conc. on piles on Imlay St at Bowne St." Profile elevations are not available for the other locations.
14	Please provide profile elevation drawing for new internal 10” E.S.V.P STM sewer on concrete cradle, shown on drawing UTL11 and STR85.	Refer to Drawing UPR06.
15	There are (4) “New Hydraulically Sealed Type B-1 Manholes” indicated on the Utility Plans. Are these New Hydraulically Sealed Manholes and their associated piles etc. to be paid under item 51.21S0B1000V? If not, please indicate where these New Hydraulically Sealed Manholes and associated piles etc. are paid.	Refer to Drawing UTD02 for schedule and pay item for new hydraulically sealed manholes.
16	Please clarify what unit item are hydraulically sealed manholes/covers to be paid under?	Please refer to the utility detail sheets on Drawings UTD01 and UTD02 for the schedule and pay items of proposed hydraulically sealed manholes and existing manholes to be hydraulically sealed.
17	Is there a difference between Retaining Wall Type 1, Type I Retaining Wall, I-Shaped, and I-Wall? There are various callouts on the plan sheets but only one "I-Wall" detail on STR57. Please confirm if these are all the same type of wall, or where the details are if different.	Confirmed, they are all referencing the one "I-wall" detail on STR57.

No.	Bidders Questions	DDC Responses
18	Please identify the drawing number or specification section that details debris loading for each gate.	The gate's foundation is designed assuming that the debris load on the gate (on the wet side) is 500 lbs and an object moving at 5 feet per second.
19	Please clarify the requirements for dry side impact.	The foundation is NOT designed for an impact on the dry side.
20	This project calls for differing micro pile sizes. To our knowledge there are no head room restrictions here. Will the contractor be allowed to substitute the mini piles for a faster cheaper pile alternative that meets or exceeds the design capacities ie: CFA's?	Value Engineering proposals per the Value Engineering requirements in the S-Pages may be submitted for alternate pile designs.
21	Please provide any available information regarding the foundations of all existing buildings where the proposed flood walls will be placed adjacent to the building perimeters.	Please refer to the underpinning section on Drawings STR72 to STR74.
22	Regarding Drawing UTL01, please provide additional details about the "sewer manhole connection to run to the adjacent manhole, no current record," originating from the new Type 2 catch basin.	Record drawings were not obtainable.
23	Recently, the NYC Mayor's Office of Contract Services introduced a new requirement that, effective December 30, 2024, all bids and proposals for construction projects must include a copy of the bidder or proposer's certificate of registration with the New York State Department of Labor (DOL), and that all contractors and subcontractors in New York City who are submitting bids or performing construction work on public projects must provide a copy of their Certificate of Registration from the New York State Department of Labor (DOL). Does this requirement apply only to bids released after December 30, 2024, or does it affect bids currently released but are still due after December 30, 2024? Please advise.	Please refer to Addendum No.3, Attachment C.

DDC PROJECT #: **SANDRDHK**

PROJECT NAME: **RED HOOK COASTAL RESILIENCY (RHCR) ATLANTIC BASIN AND BEARD STREET**

ATTACHMENT B – REVISIONS TO THE DOCUMENTS

1) Bid Schedule Revised →

- Items 6.52 CG and 7.35 have been rounded up to full number.
- Item HW-900 changed to Fixed sum of $ 1,000,000.

2) Drawings updated→

The following sheets have been revised:

- Site Plans – SIT24-27
- Structural Plans – STR20-21, 50-51
- Deployables – DPY07-08, 16, 19, 21
- Utility Plans – UTL14
- Erosion and Sediment Control Plans – ESC01-150

DDC PROJECT #: **SANDRDHK**

PROJECT NAME: **RED HOOK COASTAL RESILIENCY (RHCR) ATLANTIC BASIN AND BEARD STREET**

ATTACHMENT C – REVISIONS TO PASSPORT FORMS

This Addendum initiates Round 5 of the procurement.

Please note that numbering of addenda is independent of rounds.

Questionnaire Changes:

None

Item Grid Changes:

None

CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF INFRASTRUCTURE

ADDENDA CONTROL SHEET

BID SUBMISSION DATE/ TIME: January 30, 2025 between 8:30am and 11:00am
BID OPENING DATE/ TIME: January 30, 2025; 11:30am

PROJECT No. : SANDRDHK

TITLE: **RED HOOK COASTAL RESILIENCY (RHCR)**
ATLANTIC BASIN AND BEARD STREET

ADDENDA ISSUED	NO. OF DWG	DATE	APPROVED BY: SPECS UNIT	APPROVED BY: GENERAL COUNSEL
#1 Questions from Bidders and Responses to Questions Revisions to Documents; Revisions to PASSPort Forms	26	11/20/2024		
#2 Revised Bid Opening Date; Questions from Bidders and Responses to Questions; Revisions to Documents; Revisions to PASSPort Forms .	0	12/05/2024		
#3 Revised Bid Opening Date; Questions from Bidders and Responses to Questions; Revisions to Documents; Revisions to PASSPort Forms .	0	12/13/2024		
#4 Questions from Bidders and Responses to Questions; Revisions to Documents;	163	12/20/2024		
#5 Revised Bid Opening Date; Questions from Bidders and Responses to Questions; Revisions to Documents; Revisions to PASSPort Forms.	31	1/7/2025		1/7/2025

THE CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF INFRASTRUCTURE

1/7/2025

ADDENDUM No. # 5

FOR FURNISHING ALL LABOR AND MATERIAL NECESSARY AND REQUIRED FOR:

85025B0025– SANDRDHK

RED HOOK COASTAL RESILIENCY (RHCR) ATLANTIC BASIN AND BEARD STREET

This addendum is issued for the purpose of amending the requirements of the Bid and Contract Documents and is hereby made a part of said Bid and Contract Documents to the same extent as though it were originally included therein.

The bidder is advised that the items listed below apply to the project:

1. **The Bid Opening for the contract described above scheduled for January 10, 2025, at 11:30 am is rescheduled to January 30, 2025, at 11:30 am. No further extensions will be granted and the question deadline for this solicitation is January 10, 2025, at noon.**

2. **Bidders Questions and Responses to Questions:**
   See Attachment A.

3. **Revisions to Documents:**
   See Attachment B.

4. **Revisions to PASSPort forms:**
   See Attachment C.

Transferring Data Between Rounds of an RFX: A new document titled “Transferring Data Between Rounds of an RFX” has been added to the Documents section of the View RFx tab. Please refer to this document when an addendum has been issued. Note: Whenever an addendum is issued, the RFX item grid will be cleared. You can import the work you have already done by following the steps on this document.

DDC strongly advises vendors to finalize and submit bids 48 hours prior to due date and time. The City is not responsible for technical issues (e.g. internet connection, power outages, technology malfunction, computer errors, etc.) related to bid submissions.

If additional information is required, please contact the Department of Design and Construction, Contract Section via PASSPort (in the Discussions with Buyer section).

Richard Jones, PE CWI
Executive Director, Executive-Engineering Services

DDC PROJECT #: **SANDRDHK**

PROJECT NAME: **RED HOOK COASTAL RESILIENCY (RHCR) ATLANTIC BASIN AND BEARD STREET**

ATTACHMENT A - BIDDERS QUESTIONS AND DDC RESPONSES

No.	QUESTIONS	RESPONSES
1	In reading section HW-900H and both Article 25 and Article 26 of the Standard Construction Contract it states no overhead and profit will be applied to this item on a percentage basis. It is not clear whether the cost of direct field supervision; superintendent, engineers, etc. will be reimbursed when required to work as part of the acceleration. More specifically if the city directs the contractor to work weekends to accomplish the acceleration; will we be able to bill the cost of the field supervision required to oversee this work that is occurring on the weekends.	According to Article 26.2.11, all costs and expenses in connection with administration and management superintendence are included in the overhead. The costs and expenses associated with field supervision cannot be billed under item # HW-900H.
2	"Please check that these bid items are correct: a. 50.21M4E012D - 12"" RCP Cl. 4 Storm on Cradle (item number is for encased pipe; 12"" RCP not standard - please confirm) b. 50.21S4E006D - 6"" RCP Cl. 4 Sanitary on Cradle (item number is for encased pipe; 6"" RCP not standard - please confirm) c. 50.21S4E010D - 10"" RCP Cl. 4 Sanitary on Cradle (item number is for encased pipe; 10"" RCP not standard - please confirm) d. 50.31CC30 - 30"" ESVP Combined Sewer (30"" ESVP not standard - please confirm)"	Revised the Bid Schedule and corresponding Drawings to reflect the changes for the mentioned Items. Please refer to Attachment B of this Addendum 5 for details.

No.	QUESTIONS	RESPONSES
3	See detail A-A on STR53: The note reads, "Existing structure to be replaced," and "Chain link fence where specified see 8' chain link fence detail on Dwg SD01. Item no. RHCR-6.34AD." Please provide details for the concrete structure, including rebar details. Please indicate where this fence is. Also, please provide drawing SD01.	Information on the fence can be found on GND01. The reference note on STR53 has been modified.
4	See bid item 1. compacted subgrade. Item No. 203.2. Where is this located on plans?	Line item 203.2 has been removed from the Bid Schedule.
5	Cross section FF on pg STR56 references a drawing SD01 for details on the chain link fence. SD01 is not included in our plan set. Please provide that drawing	Information on the fence can be found on GND01. The reference note on STR56 has been modified.
6	Please refer to LA01. Bid items are missing for the exposed aggregate sidewalk (4.05 EAC) called out as well as the curb (4.08 PF)	LA01 does not have these items. Item numbers have been modified on Drawings LA02, LA03, LA07, and LA08.
7	Please provide details where formliner is to be used on the flood wall and retaining wall. In addition to this, please provide the detail on where each formliner pattern is to be used. We are provided two patterns (A and B) but there is no detail on where each pattern is to be used and the transition between each pattern.	Notes have been added to the formliner details to address formliner locations on Drawing STR69.
8	Bid Item 6.18 PK SF2 Steel Fence, 2'-6" High has a unit and quantity of 145 EACH. Should this unit be in LF? Please confirm quantity and unit.	The Bid Schedule has been modified.
9	Bid Item 6.18 PK SG2 Single Gate for Steel Fence 2'-6" High steel Fence, 2'-6" High has a unit and quantity of 1 L.S. Should this unit be EACH?. Please confirm quantity and unit.	The Bid Schedule has been modified.

No.	QUESTIONS	RESPONSES
10	Under what pay items are the grounding, new meter pan and heavy duty fused service switch NEMA 1 getting paid under on the electrical one-line diagram on sheet 708.	Revised plans to include pay item 670.900100ER. See Drawings EPP06 and EPP08.
11	The type of pipe New 24" RCP Class III Combined Sewer on Concrete Cradle is indicated on Utility drawings multiple times, but no bid item is given for this class of pipe on cradle. Please provide aa Bid item and Quantity. i.e. Refer to Utility Plan 03- Sheet 428 of 852 see new 24" RCP CLIII Comb Sewer on CONC Cradle on Piles 179.58 LF , (More than any 24" RCP bid item quantity scheduled).	Revised Bid Schedule to remove Class IV item and include Class III for 24" Pipe.
12	On Sheet 432 of 852 The bid item in question shows up, on Ferris street, only a pay item exists for 15" ESVP on cradles, but not encased- See pay item 50.31cc15- no combined encased 15" ESVP exists. Please create a pay item for 15" ESVP Comb Encased on Piles	Please see the revised Bid Schedule.
13	On Sheet 445, DWG UTL18 there are callouts for 6” E.S.V.P. Sanitary Sewer, Encased in Concrete on Piles and 18” E.S.V.P. Storm Sewer Encased in Concrete on Piles. There are no pay items for these types of pipe. Please provide new pay items for these types of pipe or indicate the correct pay item for these pipes.	Revised the Bid Schedule. Please refer to Attachment B of this Addendum 5 for details.
14	For item no. 680.513000MO please confirm the total quantity required. The drawings say all property line boxes are existing.	Refer to EPP06 for proposed property line box. The quantity was revised in the Bid Schedule.

No.	QUESTIONS	RESPONSES
15	"The following pile lengths are missing from the sewer pile tables on the contract drawings. Please provide: 217D-238 MH Drawing # STR99 483-484D Drawing # STR101 485A MH- 509 Drawing # STR101 "	Sewer pile tables on the Contract Drawings have been revised to include the missing pile lengths.
16	Please clarify if HPU 2 controls 3 or 4 gates. Schedule on drawings page 410 and note on page 405 conflict.	HPU 2 controls 3 gates (Gates 3, 4, and 6). See Drawings DPY02, DPY05, DPY10, DPY13, and DPY15.
17	Several Details on drawing sheet 416 of 843, calls for Bid Item '4.14 E'. This item is not part of the bid schedule. Please advise.	Updated DPY sheets to replace 4.14 E with 4.14.
18	Drawing sheet 402 of 843, calls for Bid Item '4.14 CC'. This item is not part of the bid schedule. Please advise	Updated DPY sheets to replace 4.14 CC with 4.11 CA.
19	"Highway special provisions (job specific) section B13: phasing states the project must be executed in two phases and that the Beard Street alignment must be completed prior to the Atlantic Basin Alignment. a. What scope of work specifically is expected to be completed in order to move areas? b. Is the DDC expecting 100% of the work to be completed in all broad street areas or will a lesser percent complete be acceptable to begin work in the Atlantic Basin area? c. Can all underground work and new walls be in place for the Beard Alignment, temporary asphalt placed, traffic restored, then work be performed in the Atlantic Alignment? d. Must the underpinning work be	a. The Beard Street alignment ends at the south west side of the Van Dyke and Conover Street intersection. The Commissioner may extend the limit based on construction schedule, and construction progress at the time. At a minimum, the following scope of work in the Beard Street area should be completed and functional for the Commissioner to consider the above exception: All elements of flood protection system including * street regrading, * floodwall construction, * floodgate installations, * street lighting and traffic controls, * all sewer/drainage infrastructure, and underground utilities. b. A lesser than 100% complete work at Beard

No.	QUESTIONS	RESPONSES
	performed in two phases? It is critical that the exploratory work be performed to identify where the work is necessary and then the structures underpinned not to delay the project. 1095 days is not a lot of time to accomplish a project of this complexity with many surprises to be found once excavation begins"	Street area may be considered, as indicated in bullet a. c. See response in bullet a. d. It may be considered on a case-by-case basis at the time of construction.
20	Large sections of the new flood wall is being installed in small "moving closures" behind barrier as the work progresses. What is considered completed wall in order to continue to progress the work zone? Will there be flexibility if the contractor can show that the residents and businesses will have access as necessary but allow work to proceed sequentially?	The responsibility transfers from the Contractor to the City at the Substantial Completion of the entire project.
21	On Sheet 447 (UTL20/UTL23), in Columbia Street West, the plans show a sewer run consis□ng of 15” ESVP combined sewer on concrete cradle on piles and 18” ESVP combined sewer on concrete cradle on piles. However, according to the utility profiles on Sheet 469 (UPR17/UPR17), the same sewer run shows completely different items: 15” ESVP combined sewer encased in concrete on piles and 18” ESVP combined sewer encased in concrete on piles. The bid schedule does not include pay items for the 15” ESVP combined sewer encased in concrete on piles and 18” ESVP combined sewer encased in concrete on piles. Please clarify as to whether the plan or profile is correct. If the profile is correct, we request that the bid schedule be revised in a future addendum to include the missing items.	The plan is correct, the profile has been modified.
22	On Sheet 447 (UTL20/UTL23), the sluice gate chamber on Columbia Street West has incoming/outcoming sewers of 15”	The plan is correct, the information table on sheet 425 (UTD06/UTD06) has been revised.

No.	QUESTIONS	RESPONSES
	ESVP, but the information table on sheet 425 (UTD06/UTD06) shows that the sluice gate chamber on Columbia Street West has incoming/outcoming sewers of 12". Please clarify as to which is correct.	
23	On Sheet 447 (UTL20/UTL23), near the intersection of Halleck Street and Columbia Street West/East, the plans show a sewer run of approximately 145 LF and 8 LF of new 12" ESVP combined sewer on concrete cradle on piles. However, there are no utility profiles for this sewer run. We request that the utility profile be uploaded in a future addendum.	Information on length, slope, and invert elevations are included in the plans.
24	On Sheet 445 (UTL18/UTL23), near the intersection of Dwight Street and Beard Street, the plans show a sewer run that consists of 13.45 LF of 12" ESVP storm sewer, encased in concrete. However, according to the utility profiles on Sheet 465 (UPR13/UPR17), the same sewer run shows this to be 12" ESVP storm sewer on concrete cradle. Please clarify as to whether the plan or profile is correct.	The profile is correct, the plan callouts has been updated to match.
25	On Sheet 434 (UTL09/UTL23), the intersection of Sullivan Street and Ferris Street shows approximately 25 LF of new 12" ESVP sewer, with two new Type B-1 manholes along the run. However, on Sheet 456 (UPR05/UPR17), the corresponding profile shows this same length of sewer with only one new Type B-1 manhole, with the other manhole left as an existing manhole. Please clarify if the plan or profile drawing is correct.	The plan is correct, proposed manhole has been added to the profile.
26	On Sheet 447 (UTL20/UTL23), on Halleck Street, the end of the new 12" ESVP Combined Sewer run shows a	The plan is correct, proposed manhole has been added to the profile.

No.	QUESTIONS	RESPONSES
	new Type B-1 manhole near Station BD 1014+00. However, on Sheet 466 (UPR14/UPR17), the corresponding profile does not show a new Type B-1 manhole at Station BD 1014+00 and instead shows an existing one. Please clarify if the plan or profile drawing is correct.	
27	On Sheet 447 (UTL20/UTL23), near the intersection of Halleck Street and Columbia Street West, the plans show an existing manhole near Station BD 1016+00 that has to be verified in location and condition. However, on Sheet 468 (UPR16/UPR17), the corresponding profile shows a new Type B-1 manhole at Station BD 1016+00. Please clarify if the plan or profile drawing is correct.	The plan is correct, proposed manhole has been removed from the profile.
28	The Green Infrastructure Schedule on Sheet #628 of 852 specifies a steel-faced curb type for all structures. Details for this work is found on Sheet #638. Please clarify under which item number the steel-faced curb is accounted for.	Steel Faced Curb is accounted for under Item 4.09 AG.
29	Please provide specification section for item number GI-5.10 OW 'OBSERVATION WELL'.	Observation Well is a standard item. Refer to the Standard Green Infrastructure Specifications, August 1, 2024.
30	UTL06 calls for a 6" storm sewer to cross the flood wall, and references STR25 - 52. We are unable to find this crossing to clarify the material type. the only 6" in the bid schedule is for sanitary and HDPE. Please confirm material pipe	The material of the 6" pipe is HDPE, this has been added to the plans.
31	Sheet 523 Street Lighting Plan -05 is missing from the bid set. Please provide this drawing.	Drawing SLP05 has been added.
32	In sheet GND01, as per detail "Imlay street bike ramp," a 29" steel curb is required around the planting area next to	4.09 AG is sequence no. 14 in the Bid Schedule.

No.	QUESTIONS	RESPONSES
	the bike lane. However, item 4.09 AG is missing from the bid item list. Please, we kindly request item 4.09 AG to be added in an upcoming addendum	
33	"In Addendum No. 3, it was stated that the following quantities would be rounded up to full number, but was in fact rounded down in the new bid schedule: a. 6.25 RS - TEMPORARY SIGNS (was rounded down from 21,519.35 to 21,519 SF) b. 6.83 BA - INSTALLING TRAFFIC SIGNS (was rounded down from 1,342.73 to 1,342 SF) c. 6.87 - PLASTIC BARRELS (was rounded down from 10,654.12 to 10,654 EACH) Please confirm if the rounded down numbers are correct, or if they should be rounded up as Addendum No. 3 states.	Quantities were adjusted in the Bid Schedule.
34	On Sheets 277 and 278 of 852 (SIT11 and SIT12), the proposed split sidewalk is not detailed clearly, as we are unable to see the thickness and type of concrete that the split sidewalk is using. Section A-A does not show the sidewalk type at all, while Section B-B only shows partial information. We request more information on the sidewalk types for these two sheets.	Please refer to Reed Street Typical Section on TYP09 and Van Brunt Street Typical Section on TYP10.

DDC PROJECT #: **SANDRDHK**

PROJECT NAME: **RED HOOK COASTAL RESILIENCY (RHCR) ATLANTIC BASIN AND BEARD STREET**

ATTACHMENT B – REVISIONS TO THE DOCUMENTS

1) Bid Schedule Revised →

- Changed the unit for item 6.18 PK SF2 to LF.
- Changed the unit for item 6.18 PK SG2 to Each.
- Removed line item 50.21C4C024D.
- Added item 50.21C3C024D: 24" R.C.P. CLASS III COMBINED SEWER, ON CONCRETE CRADLE
- Added item 50.31CE15: 15" E.S.V.P. COMBINED SEWER, ENCASED IN CONCRETE
- Added item 50.31ME15: 15" E.S.V.P. STORM SEWER, ENCASED IN CONCRETE,
- Revised quantity for item 50.31CC15
- Revised quantity for item 50.31MC15
- Revised quantity for item 50.31SC15
- Removed line item 50.31SE15.
- Revised quantity for item 50.13CC18
- Revised quantity for item 50.31MC18
- Added item 50.31ME18: 18" E.S.V.P. STORM SEWER, ENCASED IN CONCRETE, QTY =
- Rounded up the quantities for items 6.25, 6.83 BA, and 6.87
- Removed Item 203.2
- Revised quantity for Item No. 680.513000M0
- Added Item No. 4.05 EAC

2) Drawings updated→

The following Drawing sheets have been revised.

- 01 General
- 09_Structural- R3: STR53, STR56, STR69, STR99, STR101
- 10_Deployables- R3: DPY02, DPY05, DPY07-DPY08, DPY10, DPY13, DPY15, DPY16, DPY19, DPY21
- 11_Utility Plans- R3: ULT06, UTL18, UTD06
- 12_Utility Profiles- R3: UPR05, UPR14, UPR16, UPR17
- 16_Street Lighting Plans- R3: SLP05
- 22_Landscape Design Plans- R3: LA02, LA03, LA07, LA08
- 23_Electrical Power Plans- R3: EPP06, EPP08

3) Volume 2 updated→

- New York City Mayoral Executive Order No. 39 Rider updated.

4) Volume 3, G-69, SECTION 7.14 – SUSTAINABLE CONSTRUCTION: Please note the following provision has been considered:

- Notice to Bidders: By participating in the effort towards deliverables as per Section 7.14 Sustainable Construction, the Contractor will receive a "recognition" in their performance evaluations.

DDC PROJECT #: **SANDRDHK**

PROJECT NAME: **RED HOOK COASTAL RESILIENCY (RHCR) ATLANTIC BASIN AND BEARD STREET**

ATTACHMENT C – REVISIONS TO PASSPORT FORMS

This Addendum initiates Round 6 of the procurement.

Please note that numbering of addenda is independent of rounds.

Bid Opening Date Changes:

The Bid Opening for the contract described above scheduled for January 10, 2025, at 11:30 am is rescheduled to January 30, 2025, at 11:30 am.

Questionnaire Changes:

Question Section 1 removed

Item Grid Changes:

None

CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF INFRASTRUCTURE

ADDENDA CONTROL SHEET

BID SUBMISSION DATE/ TIME: January 30, 2025 between 8:30am and 11:00am
BID OPENING DATE/ TIME: January 30, 2025; 11:30am

PROJECT No. : SANDRDHK

TITLE: **RED HOOK COASTAL RESILIENCY (RHCR)**
ATLANTIC BASIN AND BEARD STREET

ADDENDA ISSUED	NO. OF DWG	DATE	APPROVED BY: SPECS UNIT	APPROVED BY: GENERAL COUNSEL
#1 Questions from Bidders and Responses to Questions Revisions to Documents; Revisions to PASSPort Forms	26	11/20/2024		
#2 Revised Bid Opening Date; Questions from Bidders and Responses to Questions; Revisions to Documents; Revisions to PASSPort Forms .	0	12/05/2024		
#3 Revised Bid Opening Date; Questions from Bidders and Responses to Questions; Revisions to Documents; Revisions to PASSPort Forms .	0	12/13/2024		
#4 Questions from Bidders and Responses to Questions; Revisions to Documents;	163	12/20/2024		
#5 Revised Bid Opening Date; Questions from Bidders and Responses to Questions; Revisions to Documents; Revisions to PASSPort Forms.	31	1/7/2025		
#6 Questions from Bidders and Responses to Questions; Revisions to Documents; Revisions to PASSPort Forms.		1/23/2025		1/23/25

THE CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF INFRASTRUCTURE

1/23/2025

ADDENDUM No. # 6

FOR FURNISHING ALL LABOR AND MATERIAL NECESSARY AND REQUIRED FOR:

85025B0025– SANDRDHK

RED HOOK COASTAL RESILIENCY (RHCR) ATLANTIC BASIN AND BEARD STREET

This addendum is issued for the purpose of amending the requirements of the Bid and Contract Documents and is hereby made a part of said Bid and Contract Documents to the same extent as though it were originally included therein.

The bidder is advised that the items listed below apply to the project:

1. **Bidders Questions and Responses to Questions:**
   See Attachment A.

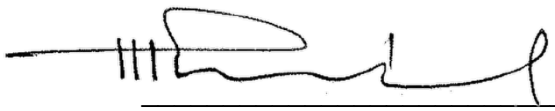
2. **Revisions to Documents:**
   See Attachment B.

3. **Revisions to PASSPort forms:**
   See Attachment C.

Transferring Data Between Rounds of an RFX: A new document titled “Transferring Data Between Rounds of an RFX” has been added to the Documents section of the View RFx tab. Please refer to this document when an addendum has been issued. Note: Whenever an addendum is issued, the RFX item grid will be cleared. You can import the work you have already done by following the steps on this document.

DDC strongly advises vendors to finalize and submit bids 48 hours prior to due date and time. The City is not responsible for technical issues (e.g. internet connection, power outages, technology malfunction, computer errors, etc.) related to bid submissions.

If additional information is required, please contact the Department of Design and Construction, Contract Section via PASSPort (in the Discussions with Buyer section).



for RJ

Richard Jones, PE CWI
Executive Director, Executive-Engineering Services

DDC PROJECT #: **SANDRDHK**

PROJECT NAME: **RED HOOK COASTAL RESILIENCY (RHCR) ATLANTIC BASIN AND BEARD STREET**

ATTACHMENT A - BIDDERS QUESTIONS AND DDC RESPONSES

No.	QUESTIONS	RESPONSES
1	Please provide specification for 4.11 A. It is not in NYC DOT standard specifications or in the specifications for this contract	Section 4.11A - Lightweight Fill has been added under the G -Pages.
2	The bid item 9.6 for Underpinning is a Fixed Sum for $1,114,586.80. The specification provided in the bid documents lists the items as a lump sum and a measure for payment and price to cover to read as a LUMP SUM item. How is the contractor getting paid for the underpinning on this project? LS or FS? If FS, is the FS item a bill against allowance, or does the DDC already have a contractor on board to perform the underpinning for the FS value of 1.1 million?	Unit was revised to FS from LS in "Section 9.60 – Underpinning" on page FW-37. The price to cover text has been revised to indicate FS rather than LS.
3	The lighting plans indicate to furnish and install 8T lampposts. There is no pay item for furnishing 8T lamppost, please clarify	Standard 25' Steel lampposts comes with 4 arm plates, which would be used for single or twin arms. There are no separate items for single and twin poles. The Item number to furnish poles with 4 arm plates along with its Transformer base is SL-21.03.12. The Item number to install the pole, base and arms is SL-21.03.01. 8' Steel Arms are furnished under item SL-21.01.06.
4	Specifications are missing for the following items: 1. 51.11SG01 – SANDRDHK SLUICE GATE 36" 2. 51.11SG02 – SANDRDHK SLUICE GATE 30" 3. 51.11SG03 – SANDRDHK SLUICE GATE 28"	Specifications for all sluice gates have been added to the SW - Pages under RHCR-51.11.

No.	QUESTIONS	RESPONSES
	4. 51.11SG05 – SANDRDHK SLUICE GATE 12” We kindly request that the specifications be included in an upcoming addendum.	
5	Please clarify why all of the proposed hydrant work for details 2 and 3 on sheet 420 (UTD01/UTD06) is to be included in hydrant removal item no. 62.13RH.	Hydrant related items have been modified in the Bid Schedule. The note on UTD01 detail has been revised.
6	The Electric Power plans say to provide new utility meter in service cabinets. Under what pay item will this work be paid under?	Work will be paid under pay item 670.900100ER.
7	Please clarify what is the appropriate item number(s) to be used for all the Regulator modification work (excavation, concrete, reinforcement bars, Manholes) shown on Drawing UTD05 (Sheet 424 of 852).	Corresponding item numbers have been added to section A-A on Drawing UTD05.
8	Hydraulic lift cylinders and HPU enclosure to be 304 or 316 SS?	316 SS for the enclosure. For the hydraulic lift cylinder, since the application being a marine (Saltwater) during flooding, we recommend adhering to the specifications and all elements should be 316SS.
9	Does the shop mockup test called for in 50.09 G count towards one of the factory acceptance tests called for in 50.20 C?	The mockup as indicated in 50.09 is to demonstrate aesthetics and establish quality standard for fabrication. If the manufacturer wants to use that mockup to conduct the required testing, that would be their choice. So no, one does not count for the other, but the item fabricated in 50.09 G could be used for the testing in 50.20.
10	Is there a specific gate that will be designated for the mockup test?	Each type of gate produced will require independent testing. We added language to make that clear in the specifications. Please refer to FW - Pages section RHCR 50.20 for revised language.
11	Are there specific gates that need to be water tested?	Each gate needs to be fully Hydrostatic tested, see Section RHCR 50.20 (C).6 in the FW-Pages.
12	Is the list of items in section 50.13 F.3.g intended to by a spare parts list?	Language revised to say, “Provide Incidental Parts as follows,” with the list of spare parts to follow.

No.	QUESTIONS	RESPONSES
		Refer to page FW-59 for revised language under F) Flip-up gate requirements.
13	Please clarify if DDC considers the small yield symbol as 1 symbol or 3	Small yield symbols should be estimated as 1 symbol each.
14	Please clarify as to how the rumble strips are being paid. There was no clear pay item for this.	Rumble strip shall be covered under item number 6.44, refer to GND04 heavy vehicle details indicating rumble strip pay item.
15	After reviewing the project specifications and drawings, we cannot source the details for 4.13x - Special Scoring for concrete Sidewalk and 9.95 GSP - Granite Slab Paving. Please advise.	For details on 4.13X please refer to drawing no GND03. Pay item for cobble pavers detail (Item number 9.95 GSB) has been added to URD33.
16	What is the lateral design load (allowable and factored) as well as the service deflection criteria?	Please provide reference to your comment.
17	On Sheet 441 (UTL14/UTL23), near the intersection of Van Brunt Street and Beard Street, the plans show both sewer runs as 30” ESVP combined sewer on concrete cradle. However, according to the utility profiles on Sheet 462 (UPR10/UPR17), the same sewer runs show completely different items: 30” R.C.P. CL III combined sewer on concrete cradle, and 30” R.C.P. CL III combined sewer, encased in concrete. The bid schedule does not include pay items for either the 30” R.C.P. CL III combined sewer, on concrete cradle or encased in concrete. Please clarify as to whether the plan or profile is correct. No matter if the plan or profile is correct, the bid schedule needs to be revised accordingly in a future addendum to include the 30” R.C.P. CL III combined sewer on concrete cradle, and the 30” R.C.P. CL III combined sewer, encased in concrete.	Profile is correct, plan callouts have been updated on UTL14 for 30" pipes. The bid schedule has been revised. Please refer to the Attachment B for details of this Addendum.
18	On Van Brunt Street, between sheet 441 (UTL14/UTL23) and sheet 443 (UTL16/UTL23), the plans show a sewer run consisting of 15” ESVP storm sewer on concrete cradle on piles and 18” ESVP storm sewer on	Profile is correct, plan callouts on UTL14 and UTL16 have been revised to match the profile. Please refer to Addendum 5 responses of question number 12 for 15” Storm Sewer

No.	QUESTIONS	RESPONSES
	concrete cradle on piles. However, according to the utility profiles on Sheet 462 (UPR10/UPR17), the same sewer run shows completely different items: 15” ESVP storm sewer encased in concrete on piles and 18” ESVP storm sewer encased in concrete on piles. The bid schedule does not include pay items for the 15” ESVP storm sewer encased in concrete on piles and 18” ESVP storm sewer encased in concrete on piles. Please clarify as to whether the plan or profile is correct. If the profile is correct, we request that the bid schedule be revised in a future addendum to include the missing items.	and question number 13 for 18” Storm Sewer.
19	Please confirm the required nominal capacity shown on the floodwall pile tables for the 13 5/8 micropiles is 280k and this is not a mistake.	Confirmed. The nominal capacities shown are correct.
20	The following item numbers are listed in the Bid Schedule but are not reflected in the drawings: • 50.21C4C024D • 50.21M4E012D • 50.21S4E006D • 50.21S4E010D • 50.31CS12	• 50.21C4C024D: See response in Addendum 5 No. 11. • 50.21M4E012D: See response in Addendum 5 No. 2. • 50.21S4E006D: See response in Addendum 5 No. 2. • 50.21S4E010D: See response in Addendum 5 No. 2. • 50.31CS12: Removed from Bid Schedule.
21	Sheet #604 of 852, calls for all the item numbers associated to the Green Infrastructure (GI) scope. The following items are not included in the bid schedule. Please advise. • GI-2.08 L Impermeable Liner • GI-7.13E Maintenance of GI Site • GI-P1 Photo Documentation	• GI-2.08 L Impermeable Liner - Bid Schedule has been revised to include item no. GI-2.08L with QTY=7115 SF. • GI-7.13E Maintenance of GI Site - has been removed from plans, refer to GIN01. • GI-P1 Photo Documentation - has been removed from plans, refer to GIN01.
22	Please reference Deployable Layout Plan – 8 – Roller Gate, Sheet DPY07 and DPY08. Please clarify if detail	Elevation 'D' on sheet DPY07 is applicable only to the Roller Gate "5." Elevation 'D' is taken from Detail '1' also shown on DPY07

No.	QUESTIONS	RESPONSES
	“Elevation D” for Detail 1 on Sheet DPY07 is to be used for Detail 2 on sheet DPY 08, otherwise please provide elevation view for Detail 2 on Sheet DPY08.	to illustrate the connection between the "flood wall" and the "return wall." Detail '2' on DPY08 is only applicable to Roller gate "2" to illustrate the connection between the "flood wall" and the "return walls."
23	Please provide spacing and dimensions for the #5 dowel bars on the Typical Sections for Utility Crossing (Types A-C).	Dowels shall be spaced at 12" on center and shall be 2'-0" long. Utility Typical sections on drawing no. STR58, STR60, and STR61 have been revised.
24	Several locations of the plans do not match up with the profiles for the street. (Example UTL08 does not show 15" Storm along Sullivan, but UPR05 shows a significant run of 15"; On the same pages UPR calls for a 12" Storm at some point in the intersection of Ferris and Sullivan, but it’s unclear where that is happening on the plans, as the plans in that intersections call out Combined sewer not storm)	15" STM along Sullivan Street overlaps the baseline making it hard to see. Please refer to sewer flow arrows and callouts on UTL08 to locate 15". 12" STM is proposed within the intersection (western portion) of Ferris St/Sullivan St. Please refer to callouts on UTL09 to locate sewer.
25	UTL02 calls for Internal 12" ESVP Storm encased on piles. Please clarify if there is any intended difference with the designation of "Internal" vs Pay item #65 - 12" ESVP Storm Sewer, Encased	There is no intended difference.
26	Please confirm that all pipes originating from a catch basin are intended to be 12" DIP 401 Chutes. Many runs do not have leader call outs, which may explain Question 8 and Question 13	All pipes originating from catch basins are intended to be 12" DIP catch basin connections following NYCDEP Standard Specification 52.11.
27	Refer to sheets 473 thru 486. The typical sections indicate that the water main is to be installed on concrete cradles. This is not noted on the plans. Please clarify if cradles are required and if so, what are the limits. If cradles are required, specify payment item.	Concrete cradles are not required for water mains. Water mains will be installed on gravel or broken stone bedding wrapped in filter fabric. Please refer to the utility sections for revisions.
28	Please provide the spec if the permanent steel sheeting has to be coated	No coating is required.
29	Reference drawing 364 of 852 Underpinning Location 1- if the quantities provided on this drawing are added together there would be a	Quantities on sheet 364 are correct. The darkened line that represents where the floodwall alignment is for reference only and does not represent where underpinning is

No.	QUESTIONS	RESPONSES
	quantity of 1,465 linear feet of potential underpinning, but if this drawing is scaled utilizing the 1" = 170' and the darkened line is measure the linear footage of potential underpinning is 2000 Linear feet+. Please confirm the quantity to be used for estimation purposes are the quantities shown on sheet 364, drawing STR72, which is 1,465 linear feet	required.
30	Reference drawing DPY07. The foundations for the deployable gates state that there is a 4" diameter drain pipe which gets paid under item No RHCR-50.41M6C04. This is no such bid item. Please advise.	Item number has been revised to 9.13 HD4 on drawing numbers DPY07, DPY08, DPY15, and DPY16.
31	Sheet# 688 of 852 calls for item number PK-76A "PCP (POLYETHYLENE CORRUGATED PIPE) DRAINPIPE @ 1.0%". This item is not included in the bid schedule. Please advise	Plans have been revised to callout item no. 9.13 HD4. Please refer to drawing no. LA05 (sheet 688).
32	There are no pay items for a Restoration Specialist or Erosion and Sediment Control Licensed/Certified Professional. Please clarify if pay items will be added to the Bid Schedule for either BMP specialist.	Please refer to specification section RHCR 9.30 for payment details.
33	There is no Highway Construction Profile for Smith Street. We request that this profile be included in the next Addendum.	Highway construction profile is not provided for Smith Street since there is only utility work proposed and no sidewalk/curb/ roadway reconstruction work.
34	According to sheet GND05, on detail 1, the 7" Concrete sidewalk is pigmented dark grey with scoring. Please clarify under what item this should be paid.	The comment is not clear. GND05 Detail 1 specifies the 7" concrete sidewalk (pigmented) to be paid under 4.13 BRXP.
35	Jet Grouting specification RHCR-522.07 Part (D) identifies exposing test elements by excavation for the upper 8 ft. After regrading, a majority of the test jet grout columns will be below groundwater table. Is it anticipated that dewatering will be required for excavating the test columns?	Yes, dewatering may be required.
36	Drawing STR68 identifies the sheet	Confirmed. The bottom of the jet grouting

No.	QUESTIONS	RESPONSES
	pile tip elevation which is interpreted to be the bottom of the jet grouting zone (as alluded to in Drawings STR58, STR60, and STR61). Please confirm.	zone should be at the same elevation as the sheet pile tip elevation.
37	Regarding the bottom of the jet grouting zone, Drawing STR68 does not indicate the sheet pile tip elevation for portions of the wall where there will be jet grouting. Instead, it references the micropile tables (Drawings STR66 and STR67). Is it the anticipation that the bottom of the jet grouting zone is to be pile tip elevation of EL. -55?	No, in locations with micropiles and a seepage barrier extending 10ft deep, any required jet grouting limits should be the same as the bottom of the seepage barrier.
38	Seepage barrier is required underneath the concrete retaining wall as per sheet STR54. Please, clarify where the seepage barrier specifications and details can be found.	The seepage barriers are steel sheet piles. Please see Drawing No. STR64 for requirements and details.
39	We are unable to find the cross sections for Retaining Wall 1, 3, and 5. We request that the missing cross sections be included in a future addendum.	See section A-A on STR53 for typical I-wall section for Retaining Walls 1 and 3. For Retaining wall 5, see detail 8 on LA09.
40	We are missing the profiles for Floodwall #13. We request that the missing information be included in a future addendum	Floodwall 13 has been divided into 3 sections, 13A, 13B, and 13C. The profiles are on drawing numbers STR39 through STR41.
41	There are several proposed bus pads shown on the Highway Construction plans. What is the curb size that will be used for the construction of the bus pads? It is normally 27” Steel Faced Concrete Curb, but that item is not in the bid schedule. Please advise.	Item no. 4.09 AG should be used.
42	Both the sewer profile and pile plans are missing for Beard St from sta. 993+30 to sta. 996+20 as shown on utility drawing no. UTL14. Please add in a future addendum.	The sewer profile is shown on sheet UPR07 and the sewer pile plan is shown on sheet STR88.
43	There is no sewer profile for the 12” combined sewer in Richards St. N/O Beard St as shown on utility drawing no. UTL17. Please add in a future addendum.	The sewer profile for Richards Street is shown on sheet UPR12.

No.	QUESTIONS	RESPONSES
44	Further, for Bid Item 6.67, Sub Base Course, Please select a TYPE from the Specification, Type A,B,C,D,or E. as these materials vary by cost considerably, especially if RPCCA is allowed. (Type A or D)	Please review to NYC DOT Specification 6.67.2.
45	Site Plan Drawing SIT09 states "light pole to be removed and replaced". Will this be done by others? If not, then please provide a pay item for this work.	Quantify the removal of light pole under Item No. SL-21.09.09. Quantify the replacement of the light pole under SL-22.09.02.
46	Site Detail Drawing SIT24 states "2'-6" Steel Fence Item no. PK-321". There is no fence pay item for PK-321. Please provide a pay item for this work.	Fence item no. has been revised to 6.18 PK SF2 on SIT21.
47	Site Detail Drawing SIT26 states "2'-6" Steel Fence Item no. 6.34AC". There is no Bid Item 6.34AC. Please provide a pay item for this work	Fence item no. has been revised to 6.18 PK SF2 on SIT26.
48	Sheet PLN04 (Sheet #218 of 852) calls out sheet GND02 (Sheet #17 of 852). However, sheet GND02 does not have any security fence detail. Please provide location and details for the security fence.	Callout and item no. on PLN04 have been revised.
49	Note 8 on Drawing MPT05 states that work shall be in accordance with the " New York City Construction Code, IBC 2104, and all other applicable local, state, and federal regulations. Please confirm that the intent is that the underpinning is to be designed in accordance with the 2022 edition of the NYC Building Code	Confirmed.
50	Note 6 on Drawing MPT05 notes that "Proposed property work may require approval of the New York City Building Department". Please clarify if the underpinning design work requires NYC Building Department approval or not.	Yes, it is assumed that the underpinning design work will require NYC Building Department Approval.
51	This question assumes that the underpinning designs are subject to the requirements the 2022 Building Code and review by the NYC Building Department. Section 1817.3.1 of the	The contractor is required to prepare these reports for approval, and the costs are to be included in the prices bid for the associated work.

No.	QUESTIONS	RESPONSES
	2022 NYC Building Code requires that a detailed assessment including 16 different items including an assessment of the buildings load path, calculations of the building loads, excavation of test pits, a plumbness survey of the building, and other items be performed at each building requiring underpinning. Then a detailed report of the assessment is to be submitted to the Department. Have these reports been prepared for each of the buildings to be underpinned? If yes, please share them. If not, please consider adding a pay item for preparing these reports.	
52	Please clarify the required depth of underpinning at each building	This is unknown at this time.
53	Are any of the buildings to be underpinned unreinforced masonry buildings? If yes, please provide a list of which buildings are made of this construction; and has the determination been made that they do not require lateral bracing at the floor levels in accordance with section 1817.3.3 of the building code, or should the bidders assume lateral bracing of the walls at the floor levels is required.	This is unknown at this time.
54	Sheet 581 of 852, calls for Item No. 4.16 CA410. This item is not on the bid schedule. Please advise.	Item no. 4.16 CA410 has been added to the bid schedule and PLT02 has been revised with the correct size of tree pit.
55	Sheet 691 of 852 calls for Item 9.77. this item is not on the bid schedule. Please advise.	Item no. callout on LA08 has been revised to 6.77 PSR-L32G.
56	Item no. 4.13 DS is not called out on any of the drawings. please advise where this work is located.	The Bid Schedule has been revised to remove item 4.13 DS and the QTY of item 4.13 DS has been moved to 4.13 DE.
57	Please provide any reports in regards to the water quality and required water treatments of existing ground water	There are no such reports available.
58	Sheet 411 of 852 calls for item no. RHCR 50.41 ‘Manifold drains’. This item is not on the bid schedule. Please	This is the same item no. as the "4 inch dia. Drain pipe system." The item numbers have been revised from RHCR-50.41M6C04 to

No.	QUESTIONS	RESPONSES
	advise.	9.13 HD4 on DPY07, DPY08, DPY15, and DPY16.
59	Please reference Deployable Layout Plan -7- Roller Gate on Sheet DPY07, Section B-B. One of the rebars is called out under two different sizes, please see attached highlighted drawing and clarify which one is to be used. Also please provide spacing.	Rebar and stirrups spacing on Section B-B on DPY07 has been revised accordingly.
60	Please advise what the definition of Bottom of Wall (Dry), and Bottom of Wall (Wet) means. (Referencing Retaining wall profiles) We are assuming that this is the elevation of the proposed grade on the dry side and wet side of the respective wall, and it is not necessarily the elevation where the wall meets the footing.	Confirmed, the term bottom of wall (dry) refers to the proposed grade on the dry or protected side of the wall and the term bottom of wall (wet) refers to the proposed grade on the wet or unprotected side of the wall.
61	Project borings indicate groundwater wells drilled. Please provide any monitoring information available for these wells. The soil boring and groundwater well data provided makes no indication of the ground water elevation; please provide	There is no Monitoring information available.
62	Drawing Sheet 299 (Drawing STR07) please confirm that Pile Bent 39 has only 1 pile	Confirmed.
63	Drawing Sheet 360 (STR68), Sheet Pile Table for RW05 and RW06 indicate the Foundation Type as sheet pile, however Addendum 4 revised detail and provided missing information that refers to see “L-Shaped Foundation to see Detail 8 on LA-09 (sheet 692). Note no sheeting is indicated in this detail. a. Which is correct the table with sheeting or the detail without sheeting? b. If no sheeting is required, was the quantity of 4400 and 1000 sf respectively included in the Bid Schedule Item Number 300.	The detail provided in Addendum 4 is correct. No sheet pile is required at RW05 or RW06.
64	"Drawing Sheet 273 (SIT07) the callout just above the site plan title states to	a. Please refer to SIT07 sliding gate detail for pay item.

No.	QUESTIONS	RESPONSES
	remove and reinstall existing 8-foot wrought iron roller gate at new elevation. Section C-C on sheet 274 confirms description. a. What is the pay item for this gate? b. The Bid Schedule Item Number 272 seems to describe this except it is noted as 8 inches. The specification provided for Bid Item RHCR 60 is for Steel Conduit Sleeves. Please confirm and provide new specifications if required "	b. Item no RHCR 60 was removed from the Bid Schedule.
65	Bid Item Number 268, RHCR-6.35T1Z026 – Sliding Gate at 261 Conover (26' Long, Block 6120, Lot 1), what drawing is this gate on?	Please refer to Block 610 Lot 1 at the corner of Conover and Reed on Drawing No. PLN15.
66	On Sheet 268 (SIT02) in Section A-A shows item RHCR-6.35T1Z026. When looking at street view, the gate is a iron looking double swing gate. a. Is this the correct item? b. If not what is the correct bid item for this work?	a. No, Item number has been revised to PK-321C on SIT02. b. The gate should be estimated using item number PK-321C - DOUBLE GATE FOR STEEL FENCE 7' HIGH. Specification for this pay item has been added to the PARKS pages, Section PK-321 Steel Fence and Gates, and was added to the Bid Schedule, QTY = 1 EA.
67	Where is the Oconnell Substation related to Bid Schedule Item Number 266 RHCR-6.35T1P015? Please provide plan.	Refer to Drawing no. SIT08.
68	Bid Item Number 273, 274, 275 on what plan are these 14' fence related items located?	Refer to Typical Sections and Highway Construction plans
69	Contract Drawing UTD05, show the details for a Regulator Structure on Bowne Street. The utility plan sheets do not show location of where the Regulator Structure is to be constructed. Please clarify the scope of work that is to be built for the Regulator Structure on Bowne Street and the location of such work.	Refer to Drawing no. UTL02.
70	"Contract Drawing UTL10A & UTL11A, show the work associated with the	The Question is not clear enough to be responded to.

No.	QUESTIONS	RESPONSES
	existing 72" Combined Sewer to be reconstructed. The drawings call for the following Bid Items to be covered for the reconstruction of the sewer: a. Bid Item 50.72 (assumed 50.72C0600DB0000) – Reconstruction of Existing Sewers – Shotcrete Method b. Bid Item 53.11DR – Television Inspection and Digital Audio-Visual Recording of Sewers c. Bid Item 54.21PC – Portland Cement (Type V) – Injection Grouting d. Bid Item 54.31 – Shotcrete for Repair Work e. Bid Item 73.51AS – Additional Steel Reinforcement Bars "	
71	Structural plans STR02 to STR24 graphically depict sheet piles below the 'L' walls. STR54 Typical Section C-C shows a 10' seepage barrier. Please confirm that this seepage barrier is a sheetpile wall as depicted in the referenced plans.	Confirmed.
72	Structural plan and section views do not depict sheet piles below the retaining walls however the sheet pile table on STR68 indicates sheet piles at the retaining walls. Please clarify whether sheet piles are required below the retaining walls	Drawing No. STR68 has been revised and RW05, RW06, and TTRW have been removed from the table.
73	Regarding the Tide Gate Chambers, the details can be found on page UTD03 (422) stating that the micropiles have a capacity of 30 tons. However, the sewer pile plan on page STR85 (377) and the sewer pile schedule on page STR100 (392) call for a capacity of 20 tons. Please clarify.	Chamber piles shall have a capacity of 30 tons. The Pile tables has been revised.
74	Reference utility detail UTD06 sheet 425. After review of Addendum 5, is the 18" Sluice Gate to be paid for under the 28" Sluice Gate bid item? Similarly, is the 15" Sluice Gate to be paid under the 12" Sluice Gate item?	Revision has been made to the Bid Schedule and Specifications SW-Pages Section 51.11. Pay items are as follows: 1. 51.11SG01 – SANDRDHK SLUICE GATE 36" 2. 51.11SG02 – SANDRDHK SLUICE GATE

No.	QUESTIONS	RESPONSES
		30” 3. 51.11SG03 – SANDRDHK SLUICE GATE 18” 4.51.11SG04 - SANDRDHK SLUICE GATE 15” 5. 51.11SG05 – SANDRDHK SLUICE GATE 12”
75	Bid Item 51.41S001 “Standard Catch Basin, Type 1” has a bid quantity of 79 EA. After review of the drawings, it appears there are only 76 “New Type 1 Catch Basin”. Please clarify.	The Qty for 51.43S001 type 1 Catch Basin is 77. The Bid Schedule has been revised to reflect this change.
76	Bid Item 51.41S003 “Standard Catch Basin, Type 3” has a bid quantity of 19 EA. After review of the contract drawings, it appears there are 31 “New Type 3 Catch Basin”. Please clarify.	The Qty for item no. 51.43S003 type 3 Catch Basin is 31. The Bid Schedule has been revised to reflect this change.

DDC PROJECT #: **SANDRDHK**

PROJECT NAME: **RED HOOK COASTAL RESILIENCY (RHCR) ATLANTIC BASIN AND BEARD STREET**

ATTACHMENT B – REVISIONS TO THE DOCUMENTS

1) Bid Schedule Revised →

- Item Added:

  4.16 CA410, 51.11SG04, GI-2.08L and PK-321C

- Item Removed:

  4.13 DS and RHCR 60 Removed

- Item Quantity Revised:

  4.13 DE, 50.21C3C024D, 50.21C3C030D, 50.21C3C072D, 50.31CC12, 50.31CC15, 50.31CE12,50.31CE15, 50.31CS12, 50.31MC10, 50.31MC12, 50.31MC15, 50.31ME12, 50.31ME15, 50.72C0600DB0000, 51.23RF, 51.41S003, 9.13 HD and 9.13 HD4

- PNL Added/ Revised:

  8.01 C2 and JB 603E.2

2) Drawings updated→

The following Drawing sheets have been revised.

- 01_General - R5 Add 6.
- 02_General Details - R5 Add 6
- 06_Highway Construction Plans - R4 Add 6.
- 07_Highway Construction Profiles - R5 Add 6:
- 08_Site Plans and Details - R5 Add 6.
- 09_Structural-R3 Add 6.
- 10_Deployables-R5 Add 6.
- 11_Utility Plans - R5 Add 6.
- 12_Utility Profiles - R5 Add 6.
- 13_Utility Sections - R5 Add 6.
- 19_Tree Planting Plans-R5 Add 6.
- 20_Green Infrastructure Plans-R4 Add 6.
- 21_Urban Design Plans - R5 Add 6.
- 22_Landscape Design Plans - R5 Add 6.

3) Updated Volume 3

DDC PROJECT #: **SANDRDHK**

PROJECT NAME: **RED HOOK COASTAL RESILIENCY (RHCR) ATLANTIC BASIN AND BEARD STREET**

ATTACHMENT C – REVISIONS TO PASSPORT FORMS

This Addendum initiates Round 7 of the procurement.

Please note that numbering of addenda is independent of rounds.

Document Submission Setup

Revised the language of Required Document "NYSDOL Public Work Contractor and Subcontractor Registry" requirements.

Questionnaire Changes:

Revised the language for NYSDOL Public Work Contractor and Subcontractor Registry requirements under Section "Affirmation Certification."

Item Grid Changes:

None

CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF INFRASTRUCTURE

ADDENDA CONTROL SHEET

BID SUBMISSION DATE/ TIME: January 30, 2025 between 8:30am and 11:00am
BID OPENING DATE/ TIME: January 30, 2025; 11:30am

PROJECT No. : SANDRDHK

TITLE: **RED HOOK COASTAL RESILIENCY (RHCR)**
ATLANTIC BASIN AND BEARD STREET

ADDENDA ISSUED	NO. OF DWG	DATE	APPROVED BY: SPECS UNIT	APPROVED BY: GENERAL COUNSEL
#1 Questions from Bidders and Responses to Questions Revisions to Documents; Revisions to PASSPort Forms	26	11/20/2024		
#2 Revised Bid Opening Date; Questions from Bidders and Responses to Questions; Revisions to Documents; Revisions to PASSPort Forms .	0	12/05/2024		
#3 Revised Bid Opening Date; Questions from Bidders and Responses to Questions; Revisions to Documents; Revisions to PASSPort Forms .	0	12/13/2024		
#4 Questions from Bidders and Responses to Questions; Revisions to Documents;	163	12/20/2024		
#5 Revised Bid Opening Date; Questions from Bidders and Responses to Questions; Revisions to Documents; Revisions to PASSPort Forms.	31	1/7/2025		
#6 Questions from Bidders and Responses to Questions; Revisions to Documents; Revisions to PASSPort Forms.		1/23/2025		
#7 Questions from Bidders and Responses to Questions; Revisions to Documents; Revisions to PASSPort Forms.		1/28/2025		1/28/25

THE CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF INFRASTRUCTURE

1/28/2025

ADDENDUM No. # 7

FOR FURNISHING ALL LABOR AND MATERIAL NECESSARY AND REQUIRED FOR:

85025B0025– SANDRDHK

RED HOOK COASTAL RESILIENCY (RHCR) ATLANTIC BASIN AND BEARD STREET

This addendum is issued for the purpose of amending the requirements of the Bid and Contract Documents and is hereby made a part of said Bid and Contract Documents to the same extent as though it were originally included therein.

The bidder is advised that the items listed below apply to the project:

1. **Bidders Questions and Responses to Questions:**
   See Attachment A.

2. **Revisions to Documents:**
   See Attachment B.

3. **Revisions to PASSPort forms:**
   No Attachment C.

Transferring Data Between Rounds of an RFX: A new document titled “Transferring Data Between Rounds of an RFX” has been added to the Documents section of the View RFx tab. Please refer to this document when an addendum has been issued. Note: Whenever an addendum is issued, the RFX item grid will be cleared. You can import the work you have already done by following the steps on this document.

DDC strongly advises vendors to finalize and submit bids 48 hours prior to due date and time. The City is not responsible for technical issues (e.g. internet connection, power outages, technology malfunction, computer errors, etc.) related to bid submissions.

If additional information is required, please contact the Department of Design and Construction, Contract Section via PASSPort (in the Discussions with Buyer section).

Richard Jones, PE CWI
Executive Director, Executive-Engineering Services

DDC PROJECT #: **SANDRDHK**

PROJECT NAME: **RED HOOK COASTAL RESILIENCY (RHCR) ATLANTIC BASIN AND BEARD STREET**

ATTACHMENT A - BIDDERS QUESTIONS AND DDC RESPONSES

No.	QUESTIONS	RESPONSES
1	Bid Schedule includes item number RHCR 19.8.08A '11.875 IN O.D X IN 0.582 IN. WALL THICKNESS MICROPILE- PLUMB'. This bid item is not shown on any of the contract drawings. please provide clarification and location of this work.	Revised STRUCTURAL Pile details on STR65 to include pay items, revised FW - Pages Specification Section RHCR 9.18 to include size of pile, and revised item description to Bid Schedule.
2	Various cross sections on TYP Drawings calls for item numbers that are not in the bid schedule provided. The item numbers are the following: - RHCR 6.04 CR - 6.34 - 6.18 RX - 6.27 AA - BMCR – 4.06 HP FL - 6.34 AE Please advise if these item numbers are correct and if these items need to be included in the bid schedule.	Items have been checked and revisions to the typical sections have been made. Revisions include the following: - Item No RCHR 6.04 CR: Revised Typical sections, callout should read RHCR 6.01 CR. - Item no 6.34: Revised Typical sections, callout should read RHCR -6.34X. - Item No 6.18 RX: Revised Typical sections, callout should read 6.18 IFR - Item no BMCR-4.06 HP FL: Revised Typical section, callout should read (no separate payment). - Item no 6.34 AE: Revised Typical sections, callout should read RHCR-6.34AD.
3	The typical sections in drawing TYP01 shows a HESCO barrier that needs to be removed, but we can't quantify the exact length of this barrier because is not shown in the removal drawings, please provide the exact length and locations. Also, it refers to an item (RHCR-6.04 CR) that is not part of the bid items list, please include this item and its specification. Also, clarify which drawing in the MPT set shows the proper removal of this barrier.	Item number should read RHCR-6.01 CR, callouts in the typical section have been revised. Contractor shall refer to associated Specification and "Stage 0" of the MPT notes on Drawing MPT04 for proper removal guidance. Please refer to Typical Sections for locations to be removed.
4	The Conover Street typical sections do not show details of the fence to be	Modifications have been made to the Conover Street typical section and extract.

No.	QUESTIONS	RESPONSES
	removed and reinstalled to build flood wall 10 (FW10). This fence is consisting of a metal fence on top of a brick wall. Please provide details, items, and specs for demolishing and rebuilding the brick wall and pier (located at the entrance of Liberty Warehouse)	Refer to 4ft height bar picket fence detail on URD35.
5	Please clarify nonslip finish requirement. Is there a required pattern for tread plate?	Please provide reference to your comment; Non slip finish requirement is included on a variety of features in the project. Which one is the contractor referring to? This will change the answer.
6	Please clarify what is the proposed force main material in detail on sheet 424 (UTD05/UTD06).	The proposed force main material is D.I.P. This information has been added to the callouts on sheets UTL14 and UTL16.
7	Contract Plan Sheet 346 - Structural Volume- Typical Section C-C Illustrates a Micro Pile Seven iches from the face of an Existing Wall. This is not physically possible, given the constraints imposed by the micropile equipment design, Can the Engineer state the Micro Pile should be as close as physically possible to the existing structure wall? Section E-E on sheet 347 Adresses the pile as being away from the foundation footing, what if in section C-C a footing is encountered? a. Additionally, has the Engineer addressed the existing structure and its strengh to act as a form for the new concrete to be poured against?	NYC Department of Buildings coordination will be required during construction. Due to the lack of record drawings available during the design stage, any interferences with buildings and/or foundations will be addressed during the construction stage on an individual basis. No existing structures were analyzed.
8	What is the extent of work on FW13C between STA 5+47.22 and STA 5+77.30? The plan view shows no proposed work, and the profile does not show a proposed wall foundation, however the profile does show a proposed top of wall line.	There is no proposed wall work since the proposed grading is at or above the flood elevation. The wall stops at STA 5+47.22 and begins again at STA 5+77.30. The intent is to provide access through the floodwall. Profile has been modified; removing the TW profile line for the STA numbers mentioned.
9	Gate components to be 304 or 316 SS? Drawings and specifications conflict.	The flip-up gates are usually done entirely with structural aluminum for weight purposes. That is adequate. The anchor bolts and pins are usually stainless steel

No.	QUESTIONS	RESPONSES
		(SS). 316 SS is to be used for the anchor bolts and pins. With the application being a marine (saltwater) during flooding, we recommend adhering to the specifications and all elements be 316 SS. Drawing DPY18 has been updated to match Specification.
10	Please confirm if material specs on drawing page 410, or material specs in section 50.14 should be conformed to. Drawings and specs conflict.	Agreed. Specific call-outs do not need to match but materials should be consistent. As drawings are specific to exact parts and specifications are focused on general materials to be used.
11	Attached is cut sheet for the EPDM rubber we plan to supply. Please note differences in physical characteristics (specifically min. tensile strength) and confirm if it is acceptable	Sheet 410 of DPY15 (item 9 on the flip-up specifications part) has the requirements for the gasket. The provided gasket (AB-563) meets the requirements.
12	Item RHCR-2, Slurry Wall for Gate, has a quantity of 20,436 SF. Plan sheet DPY19 (414 of 843) is the only sheet we have found this item called out for the seepage barrier on Roller Gates 2 & 5 and Flip-Up Gates 3, 4, 6 & 7. Note 2 on the left of the sheet states "Gates 1,8,9, & 10 do not have utilities underneath. For this reason it is recommended to use the sheet pile wall as cut-off wall for these gates in lieu of slurry wall." The sections for Gates 1, 8, 9, & 10 do not state specifically what the cutoff wall is (show only a H=10'-0" dimension) and the table does not provide the lengths of the seepage barrier for these walls, NOR do they state how the 10' H sheet pile seepage wall is to be paid. Can you please provide clarity as to the cut-off wall for these gate areas?	Seepage cut-off wall is indeed only needed for gates 2, 3, 4, 5, 6, and 7. The dimensions are shown in the table included in sheet 414 (DPY19). For gates 1, 8, 9, and 10, The seepage will be controlled with sheet pile wall. Please refer to structural details for additional seepage barrier locations.
13	Please provide flow rates for the 72" Combined Sewer on Wolcott St. This information is necessary to figure the pump capacity necessary to complete both the shotcrete work as well as the construction of the new tide gate chamber	The full pipe flow capacity of the 72” sewer is calculated to be between 46 MGD to 141 MGD. The Contractor may install flow monitoring devices upstream and downstream of proposed work to establish a dry weather flowrate with the understanding that additional pumps must be kept on site

No.	QUESTIONS	RESPONSES
		to manage the full pipe flow capacity. In accordance with the latest "Standard Sewer and Watermain Specifications," published by NYC DEP, the Contractor, prior to the sewer work on this 72-inch line, must submit a site specific fluming and/or bypass-pumping diagram for review and approval. The contractor may elect to propose bypass pumping or gravity fluming in conjunction with proposed sewer replacement and new tide gate structure.
14	In addition to the Borings provided, is there a Geo Technical Report available?	Geotechnical reports have been provided via Passport.
15	What is the required bond length for the floodwall micropiles on Sheet 357, Dwg STR65? The detail says the socket length is on the schedule, but no socket length is provided.	The permanent steel casing is 30ft long, as shown on STR60. For the remaining socket length, the pile tip elevations are given in the pile tables along with the total pile length. Individual socket lengths can be calculated by subtracting the casing length from the total pile length.
16	Are the micropiles delegated design?	No, the micropiles have been designed. Design capacities shown on the plans will need to be verified in the field with load tests.
17	Item 318 requires micropiles through existng foundaton. Where is this on the drawings? Does this item cover only the cost to drill through the foundaton OR the entire cost of the pile?	This item is included in the Contract so that in the event this is encountered in the field, the Contractor can be reimbursed for their efforts.
18	Can you please provide clarification on the micropile offset distances on floodwall FW01 for Pile IDs 97, 99, and 103? It is not clear what these distances are offset from.	The offset distances for these piles are longer due to the alignment change in direction. For example, pile 97B is offset plan north of the alignment (the same stationing as pile 96B).
19	Highway plans indicate a small amount of 4.04HE 10" concrete pavement, illustrated on Sullivan Street and Wollcott Street, Where is the additional 10,000 cubic yards of 10" roadway slab? Further Please Clarify, the Bid Item 4.04BC is 7" concrete pavement as	Typical sections have been revised to indicate a 10" concrete base for all roadways requiring full depth reconstruction (4.04 HE). 4.04BC 7" concrete pavement has been removed from the Bid Schedule and all mention of item has also been removed from PLN17.

No.	QUESTIONS	RESPONSES
	illustrated w/a single note on Highway plan 17- Is this for the extent of Beard Street and adjacent streets? The note is only shown once on plan 17.If so, 64 cyds is not enough. Either way, the estimate area does not produce 4.04HE 11668 Cyds and 4.04BC produces way more than 64 cyds, but no where near 11K or a mere 64 cyds as indicated for payment, Please clarify the locations where 7" and 10" concrete pavements will be required and the correct bid quantities.	
20	Drawing # 411 of 852, calls for Item number RHCR-551.993 '55' LONG PILE SPACED 13-5/8" DRILLED PILES". This Item number is not shown on the bid schedule. Please advise	DPY16 has been revised to include pay item 9.18HG. For pile specifications, see response to No. 1 of this Addendum.
21	On STR08 and STR10 there is a retaining wall at the corner of King Street and Ferris Street labeled RW 11 that extends from station 0+00 to 3+58. There are no callouts included in plan view and no profile for RW 11. Please confirm if this wall is included in the proposed improvements	There is no proposed retaining wall at this location. The alignment has been removed on STR08 and STR10.
22	On sheet STR16, the section of wall in between the Flip-Up Gate No.9 to the north and FW11 to the south is unlabeled. Is this section of wall supposed to be apart of FW11? If so, it isn't currently shown as such in the plan or profile for FW11. Please verify.	Yes, this section of wall is part of FW11. Alignment and profile have been revised to include this section. See revisions to sheet STR16, STR17, and STR36.
23	What is the Site Retaining Wall detail on STR56 used for? RW01 through RW06 are all the L-Shaped retaining wall or I-Wall based on the plans and profiles.	The site retaining wall detail is for the driveway retaining wall as shown on STR18. A call out has been added for clarification on STR18.
24	Ref drawing STR54 Typical Section C-C (wall abutting building). There is not enough horizontal clearance from the building to perform a pile load test on either the near or far side piles should it be required. Please advise.	Pile load test locations are TBD but shall be on sacrificial test piles. Contractor to submit test pile location plan for review and approval by the Engineer. Please see updated pile notes on Drawing No. STR65 for clarification.

No.	QUESTIONS	RESPONSES
25	The I-Wall Over Existing Regulator Chamber detail on sheet STR59 shows 6" stone ballast and select structural fill between the bottom of the wall and the top of chamber, however the utility table on STR46 calls out the utility crossing as Type C. The Utility Crossing Type C standard detail would indicate a concrete closure wall is required between the bottom of the wall and top of chamber. Please confirm whether the space between the regulator chamber and I-Wall requires a concrete closure wall or the 6" stone ballast and structural fill.	The Type C utility crossing detail utilizing a concrete closure wall should be used here, as indicated in the utility table on STR46.
26	Throughout the Highway Construction Plan drawings, there are 4” & 7” concrete sidewalks. However, what are we using to distinguish between each type? The Green Sheet has these items under 4” Concrete Sidewalk (Unpigmented / Pigmented) and 7” Concrete Sidewalk (Unpigmented / Pigmented). The drawings are unclear in differentiating between the two. Please advise.	A note has been added to highway construction plans to refer to the urban design plans for sidewalk/concrete pigmentation. Scoring distinction notes on the Urban Design plans have been updated with the correct item numbers for each type of sidewalk.
27	The bid documents mention that the alignment of the work runs along the NYCDOT right of way with the exception of the NYNJ Port Authority Property. Please advise if all access agreements with 3rd parties will be in place by the time the contract is awarded. This is for access agreement with government bodies as well as 3rd party private owners. If these agreements are not in place, please advise if any delay these access agreements cause to the contractor will be considered compensable delays. If they are not considered compensable delays please provide an allowance in the bid schedule to account for these costs. If an access agreement is not secured in time and work is delayed	The available access agreements will be provided, and the Contractor is required to provide any additional information needed to finalize, update, amend, etc., these agreements and/or to help obtain any additional necessary agreements.

No.	QUESTIONS	RESPONSES
	the contractor could be forced to incur a large monetary burden	
28	Will the floodwall foundation piles require work hours as per traffic stipulations? Please advise.	Traffic stipulations are based on plans and limits of construction work provided to contractor.
29	Items 4.13 ABX and 4.13 BRXP specify that the concrete sidewalk with special scoring is pigmented. However, according to the drawing set from sheets URD01 through URD23, the concrete with special scoring is unpigmented. Please clarify whether the concrete is pigmented or unpigmented.	URD plans and notes have been updated accordingly.
30	In the Urban Design set of drawings, the legend specifies mixed-use unpigmented 2.5' x 5' sidewalk scoring. Please clarify if this item should be paid under item 4.13X special scoring.	URD plans (URD01 -URD23) have been updated to match the mix use detail on GND03. Mixed use zones sidewalks should be paid under 4.13 ABX.
31	Please clarify what costs covered under the following items: a. Item 4.13 AAS – 4" CONCRETE SIDEWALK (UNPIGEMENTED) b. Item 4.13 ABX – 4" CONCRETE SIDEWALK WITH SPECIAL SCORING (PIGMENTED) c. Item 4.13 BAS – 7" CONCRETE SDIWALK (UNPIGMENTED) d. Item 4.13 BRXP – 7" REINFORCED CONCRETE SIDEWALK WITH SPECIAL SCORING (PIGMENTED) e. Item 4.13X – SPECIAL SCORING FOR CONCRETE SIDEWALK	For costs covered under the items mentioned, refer to Standard Specification Section 4.13 - Sidewalk, Concrete Section 4.13.6 Prices to Cover.
32	Jet Grouting specification RHCR 522.08 Part (E) identifies minimum soilcrete unit weights and unconfined compressive strengths. The soilcrete unit weight is entirely dependent on the in-situ soil unit weights prior to jet grouting. Given the variability in the fill soils, the values identified in the table are higher than those achievable in the given fill soils. It is apparent that the jet	No revisions to the Specification requirements will be issued at this time. If during the field test program the values are determined to be unachievable given the in-situ conditions, the requirements will be reevaluated at that time.

No.	QUESTIONS	RESPONSES
	grouting is non-structural in nature, and these values should have no impact in the effectiveness of the finished product. We request eliminating the unit weight requirement (as there does not appear to be an engineering basis for it) and decreasing the unconfined compressive strength to the minimum of 250 psi as indicated in the table.	
33	Jet Grouting specification RHCR 522.08 Part (I) identifies "jet grout columns shall not be installed within 2 ft… of soil-cement elements that are less than 48 hours old." In this application, it is recommended that wet-on-wet jet grouting be allowed in order to better treat the soils given the variable nature of the fill material. We request this requirement be eliminated in order to allow for a higher quality product.	No revisions to the Specification requirements will be issued at this time. This may be submitted as an alternative during the test program for consideration.
34	In order to calculate the jet grout volume, is a wall thickness of 7' (as indicated on Drawing STR59) utilized for all of the jet grouting? Is this value multiplied by the limit of the proposed jet grout zone length (including 9' overlaps), or the clear span between sheet piles?	Confirmed. Refer to Typical section - utility crossing - top view on STR59 for limits of proposed jet grouting.
35	Bid Item Number RHCR-522 identifies a total of 1,262 cubic yards of jet grouting. However, in order to abide by the limits of proposed jet grout zone length identified in Drawings STR58, STR60, and STR61 (where a 9' overlap between the jet grout and sheet piles are required), calculated jet grout volumes are more than that identified in the Bid Schedule. Please provide basis for bid quantity of 1,262 cubic yards of jet grouting in order to clear these discrepancies.	Refer to Typical section - utility crossing - top view on STR59 for limits of proposed jet grouting. Refer to Utility plans for all crossing locations.
36	jet Grouting specification RHCR 522.10 Part (B) identifies "subsurface contamination… in Reaches H through	FW Pages, section RHCR 522.10, has been updated with the correct reaches.

No.	QUESTIONS	RESPONSES
	M." It is unclear if these reaches are from this job or a previous contract. Please clarify if subsurface contamination is expected in the jet grout zones.	
37	In Sheet 716 of 852 (MPT05/MPT39), in the MPT General Notes, the section on "Permits" state the following: 6. The Contractor is made aware that some proposed property work may require approval of the New York City Department of Buildings. Contractor is responsible for required submissions and obtaining approval. 7. The Contractor shall, unless otherwise provided in the Contract Documents, secure and pay for the required construction permit(s), fees, licenses and inspections necessary for the proper execution of the work. Application for construction permits shall be processed thru the Department of Buildings where applicable. 8. All work shall be done in accordance with the New York City construction code, IBC-2014 Code and all other applicable local, state, and federal regulations, codes and standards. Please verify which property need to get permits. Do we have access agreements for any of the properties we performing work on? If not, who is responsible for the access agreements cost?	Access agreements, which are separate from DOB permits, are being executed by the City. The Contractor should confirm any DOB permit requirements and provide a list.
38	As per Sheet 349 of 852 (STR57/STR103) and Sheet 351 of 852 (STR59/STR103), on the detail for the "L-Shaped Retaining Wall", an 8" inspection key is required for the L-shaped wall. However, there is no further information available for these 8" Wide Inspection Keys, and no specifications or additional details can	The inspection key cost shall be included in the standard concrete (item no. 4.06) and steel reinforcement (Item no. 4.14) items. Sheet STR57 has been revised to include the reinforcement for the inspection key.

No.	QUESTIONS	RESPONSES
	be found in the bid documents. Please provide specifications and details for the inspection key item in a future addendum.	
39	On Sheet 227 of 852 (PLN13/PLN23), Van Dyke Street is shown to have a mix of grinding/resurfacing work and full depth pavement restoration. However, the Typical Sections (sheets 21-38, TYP01-TYP18) show Van Dyke Street with only grinding/resurfacing work. Please clarify whether the plans or the typical section are correct	Van Dyke Street Plan13 is correct. TYP07 has been revised to include the full depth section.
40	On Sheet 20 of 852 (GND05/GND05), Detail 2 references item no. 4.09 BG as 29" Steel Faced Drop Curb. However, in the bid schedule, 4.09 BG is 28" Steel Faced Drop Curb. Please clarify.	GND05 has been revised to indicate a 28" concrete curb.
41	On Sheet 228 of 852 (PLN14/PLN23), there are several areas along Beard Street with new proposed residential vehicle driveways. One of the notes shows "PROPOSED RESIDENTIAL VEHICLE DRIVEWAY, TYP., SEE DETAIL, TYPE B – RESIDENTIAL VEHICLE DRIVEWAY ACROSS GREENWAY ON DWG. GNDO4". However, the Type B detail for residential vehicle driveway across greenway is on sheet GND05. Please clarify which sheet is correct.	PLN17 has been revised to indicate the residential driveway is on GND05.
42	On Sheet 231 of 852 (PLN17/PLN23), the full depth restoration is shown to be 3" Bituminous Wearing Course, 7" Concrete Base, and 6" Stone Base. However, in the Typical Sections, we can see that full depth restoration for the others is supposed to be 3" Bituminous Wearing Course, 10" Concrete Base, and 6" Stone Base in that area. Please clarify which is correct.	Callout has been removed on Drawing number PLN17.
43	Will the private utility companies be relocating the pole line that directly	Con Edison forces will be relocating the poles. It is not the responsibility of the City

No.	QUESTIONS	RESPONSES
	interferes with the construction of the new 12” combined sewer in the North sidewalk of Beard St. from Van Brunt St. to Richards St as shown on drawing no. UTL17 in accordance with General Note 11.02? Please clarify.	or Contractor.
44	Will the private utility companies be relocating the pole line that directly interferes with the construction of the new 12” storm sewer and 6” sanitary sewer in the North sidewalk of Beard St. from Richards St. to Dwight St.as shown on drawing no. UTL18 in accordance with General Note 11.02? Please clarify.	Con Edison forces will be relocating the poles. It is not the responsibility of the City or Contractor.
45	Reference is made to Volume 3, Special Floodwall Specifications, Section RHCR-2 - Bentonite Slurry Wall and Plan Sheet 414, sections A-A, B-B and “Detail 1”. Specification section RHCR-2.13 indicates to construct a 3-foot minimum width trench, while Plan Sheet 414, “Detail 1” indicates to construct a 1’-3” thick (in width) bentonite slurry seepage cut-off wall. a. In terms of these plans and specifications, are the terms bentonite slurry wall and bentonite slurry seepage cut-off wall used interchangeably? b. What is the required minimum width of the bentonite slurry seepage cut-off wall?	a. Yes, bentonite slurry wall and bentonite slurry seepage cut-off wall terms are interchangeable. b. The correct minimum thickness for the slurry (seepage cut-off wall) is 3 ft. The Specification is correct. The sheet 414 (DPY19) has been corrected showing 3 ft. in lieu of 1'-3" in a previous submission.
46	Please provide details for item number 6.18 IFR. The contract drawings show location of the work but there are no details on type of fencing.	Note on Drawings TYP08 and TYP09 have been added and the Bid Schedule has been revised based on size of the fence.
47	The Contract Drawings appear to indicate a quantity that is significantly less than the Engineer’s estimated quantity of 5,310 CY for Item No. 4.06, "Concrete in Structures, Class A-40." Please confirm if the estimated quantity is accurate.	Confirmed, the estimated quantity is accurate.

No.	QUESTIONS	RESPONSES
48	Sewer service connection bid items like below for example appear to be missing from the bid schedule. Will items be added? How many service connections are there, what size and how will service connections be paid for? 52.21V06 6" ESVP RISER FOR HOUSE CONN 52.21V08 8" ESVP RISER FOR HOUSE CONN 52.21V10 10" ESVP RISER FOR HOUSE CONN 52.41V06R 6" ESVP FOR HOUSE CONN DRAIN ON CONC 52.41V08R 8" ESVP FOR HOUSE CONN DRAIN ON CONC	The following items and quantities have been added to the Bid Schedule: -52.21V06: 6" ESVP RISER FOR HOUSE CONN QTY = 100 VF -52.21V08: 8" ESVP RISER FOR HOUSE CONN QTY = 100 VF -52.21V10: 10" ESVP RISER FOR HOUSE CONN QTY = 100 VF -52.41V06R: 6" ESVP FOR HOUSE CONN DRAIN ON CONC = 500 LF -52.41V08R: 8" ESVP FOR HOUSE CONN DRAIN ON CONC QTY = 500 LF
49	The typical I-Wall section on sheet STR57 indicates a continuous steel channel with 2 layers of compressed synthetic sheet gasket on top of the sheeting. Please provide details for the channel ie. size and it's connection to the sheeting. Under what item is this detail paid for?	The I-wall steel channel and sheet gasket have been removed from the Contract. Modifications have been made to plans STR53, STR54, STR56, STR57, STR59, and STR62.
50	The bid schedule includes item BMP-7.102 Dewatering 1LS. Specification Vol 3 Pages BMP-6 and BMP-7 item L states that no additional or separate payment will be made for any of the work described in the section; as such, what work scope is included and paid for in this bid item?	Item BMP-7.102 has been removed from the Bid Schedule. Please refer to the BMP Specifications for guidance on how to cover payment for dewatering.
51	Ref drawing UTL16 a leader note states 'Existing NYCDEP Pump Station manholes to be raised to proposed elevation'. Provide details for this work and applicable pay item.	Details have been added to UTD01 and callout has been added to UTL16. Replacement of manhole cover shall be covered under 51.23 RF. The Bid Schedule quantity has been revised.
52	Specification volume 3 references Phase I and II reports. Please provide those reports	Reports have been provided via Passport.
53	Please confirm if we are to include the disposal costs (Tipping Fees) for the excavated material in bid item 4.11AS	Field testing of excavated/stock piled material to confirm hazard levels prior to disposal is required under Specification

No.	QUESTIONS	RESPONSES
	Earth Excavation for Structures? For leveling purposes are we to assume this material is be disposed of as Non-Contaminated, Contaminated Non Hazardous, Hazardous etc? Please also provide soil analytical for this soil.	section 8.01. Reports 1 and 2 have been provided via Passport.
54	Drawing Sheet 299 (Drawing STR07) at Floodwall FW03A at pile location 41, only one (1) black circle (dot) is indicated to show the pile location, however on the Pile Table Drawing Sheet 358 (STR66) it shows 2 piles 41A and 41B. Other similar two (2) pile locations have 2 circles (dots). Which is correct, the plan or the table?	The table is correct. There should be an A and B pile at row 41. Please see revised plan SRT07.
55	Specification RHCR-2 – Bentonite Slurry Wall, Section RHCR.2.01.A. (1) (a), it states, “The slurry trench is a 3 feet minimum width trench …….”. On Drawing Sheet 414 (DPY19) all the callouts indicate a 1’-3” thick Bentonite Seepage cut-off wall. a. Please confirm that width and thickness have the same meaning. b. Which is correct; a 1’-3” or 3’-0” if both meanings are the same? c. Section 2.24 (A) the Measure and Payment section states the wall is measured by the cubic yard (CY) but the bid sheet is in Square Feet (SF). Which is correct?	a) Confirmed, they are the same (3 ft wide trench to cast a 3 ft thick wall). b. The correct minimum thickness for the slurry (seepage cut-off wall) is 3 ft. The Specification is correct. The sheet 414 (DPY19) has been corrected showing 3 ft. in lieu of 1'-3"in a previous submission. c) Unit for pay item has been revised to CY in the Bid Schedule in a previous submission.
56	Drawing Sheet 308 (Drawing STR16) a Type 1 Retaining Wall is shown between FW 11 at approximately Station 2+90 and FW 11 Station 0+50 near deployable foundation gate #9 and is running in the NE to SW direction parallel to the FW 11 “L” Shape Wall. No wall number is shown nor any profiles provided. Is this wall part of this contract, if so, please provide wall number and profile?	Yes, alignment and profile for FW11 has been revised to include this section of wall. See revisions on STR16, STR17, STR36, STR67, and STR68.
57	Reference is made to Volume 3, Special Floodwall Specifications, Section RHCR-2 - Bentonite Slurry	a. The slurry wall will be paid under RHCR-2 B. The reinforcement bars will be paid under 4.14

No.	QUESTIONS	RESPONSES
	Wall. a. Under which items is the excavation of the bentonite slurry seepage cut-off wall paid? b. Under which item is the reinforcing bars paid?	
58	On drawing LA02 (TODD TRIANGLE MATERIALS PLAN) sheet 685 of 852 indicates the 2'-6" Ht. Steel Fence is to be Paid Under Item No. 6.18 PK SF2. On drawing LA07 (TODD TRIANGLE ELEVATIONS) sheet 690 of 852 indicates the 2'-6" Ht. Steel Fence is Paid Under Item No. 6.18 A26. a. Please clarify which pay item the 2'-6" Ht. Steel Fence will get paid under? b. If the above fence is to be paid under Item 6.18 PK SF2 Steel Fence, 2'-6" High than please clarify the bid quantity of 145 Each. Fencing is usually paid for by the liner foot, please provide the length of each piece should this item remain in the bid proposal.	See response on Addendum 5 No. 8 for Bid Schedule revisions. Drawing number LA07 has been revised.
59	In the bid proposal Item No. 6.18 IFR IRON FENCES AND RAILING is used with a quantity of 908 LF. We are unable to locate where this item of work is called out on the drawings, please provide clarification where this item of work is to take place on this project.	Please reference Typical sections TYP08 and TYP09 for 6.18IFR items.
60	Reference the site plan page SIT01 (sheet 267) and the utility plan page UTL02 (sheet 427). The site plan calls out for 12" DIP storm sewer. The utility plan calls out for 12" ESVP storm sewer encased for the same pipe. Please clarify.	Call out on SIT01 has been revised. Pipe has been changed to a 12" ESVP.
61	Please confirm if the price of the pile caps are to be included in all various bid items, or if bid item 73.21AC is missing from the bid schedule. If missing, please also add 73.31AE0 for additional earth excavation, and 73.61AT for additional stone ballast to	The Bid schedule has been revised to include the following: 73.21AC - QTY = 15 CY 73.31AE0 - QTY = 50 CY 73.61AT - QTY = 15 CY

No.	QUESTIONS	RESPONSES
	conform with NYC DEP specifications.	
62	Contract Drawing UTD05, show the details for a Regulator Structure on Bowne Street. The utility plan sheets do not show location of where the Regulator Structure is to be constructed. Please clarify the scope of work that is to be built for the Regulator Structure on Bowne Street and the location of such work.	Please refer to Drawing no. UTL02.
63	Contract has Bid Item No. 9.13 HD – 6" High-Density Polyethylene Drainage Pipe for a quantity of 123 lf. Based on review of Contract drawings it is not clear what location the 4" High-Density Polyethylene Drainage Pipe is to be installed. Please clarify.	Please refer to LA05 and Deployable plans for 4" pipe locations. The Bid Schedule has been revised for 4" and 6" pipe lengths (9.13 HD and 9.13HD4).
64	Contract has Bid Item No. 9.13 HD4 – 4" High-Density Polyethylene Drainage Pipe for a quantity of 343 lf. Based on review of Contract drawings it is not clear what location the 4" High-Density Polyethylene Drainage Pipe is to be installed. Please clarify.	Please refer to the deployable plans and LA05 for 4" pipe locations. Quantity has been adjusted in the Bid Schedule.
65	Sheet 402 (DPY07) Section B-B and Sheet 403 (DPY08) Section A-A have call-out (middle right side) that state "4" DIA Drain Pipe System Item RHCR-50.41M6C04. Additionally, on Sheet 404-409 the drain lines are shown from each gate area however no mention of pay items. This item does not exist on the Bid Schedule. Will this item be added, how will this work be paid?	Please refer to the deployable plans. Sheets and details have been updated with pay item 9.13 HD4 for 4" Dia drain pipe system.
66	Reference Specification Section FW – RHCR 50 – Floodgates section RHCR 50.13.(F).3.(g) which states "The hydraulic lifting mechanism must be powered using a hydraulic power unit (HPU) located within the enclosures shown on the Contract Drawings.:" then 9 items Roman Number 1-9 are listed. a. What and/or where do these 9 items apply?	The identified items I-IX is a spare parts list to be provided by the contractor/manufacturer to the City of New York for future project use. The list is for the set of gates and not for each individual gate.

No.	QUESTIONS	RESPONSES
	b. Are these to be included at each HPU or one (1) lump sum location and one (1) set each of the items? Example: A project total of Ten (10) Blanking bolts to lifting points. c. Or is this a list of incidental parts as listed for the roller gates? Section 50.13.(G).4.a-c	
67	Ref drawing STR69. Is the smooth side (wet side) of the wall which only requires a smooth plastic liner also paid for under bid item RHCR 13.FLWL Architectural Textured Finish?	No, only the additional formwork requirements for the textured side of the floodwalls are to be paid under this item.
68	Specification section RHCR 522.01 Jet Grouting lists 'gate foundation' under the Intent heading. The structural drawings only show micropiles and deployable drawings a bentonite slurry seepage barrier but no jet grouting. Please confirm that there is no jet grouting associated with the gate foundations.	Jetgrouting should not be used for gate foundations. FW - pages Specification section RHCR 522.01 has been revised.
69	When and where is Spec 2.29 Warm Mix Technologies for asphalt to be used?	Refer to Drawing no. GEN02 - special notes.
70	Ref spec RHCR-HW-901 (7) Temporary Flood Control Measures requires the contractor to maintain and deploy the IFPM flood control measures as directed by the Engineer. Please provide the Temporary Emergency Response Plan and framework for estimating the scope involved.	Refer to Drawing no. MPT04 - staging notes - emergency response plan.
71	Ref SIT18 what bid item covers the work associated with the fire sprinkler and fire department connection removal and new installation?	Revisions have been made to SIT18 and SIT16 to include the item no.
72	Based on question #8 in Addendum 3 the costs for all interferences for utility poles and overhead wires are deemed included in all prices bid. In order to come to an accurate cost estimation of these items, it is imperative that the contractor knows how long the utility	This is to be decided on and coordinated with the project field office and the utility company during construction.

No.	QUESTIONS	RESPONSES
	companies will take to re-locate their utility poles completely.	
73	Ref drawing SSP20 and specs indicate an inductance loop vehicle detection system. Please indicate which bid items that cover this installation.	Loop detector has been removed from the Contract. Modifications have been made to plans SSP20 and SDT01, and the Specifications.
74	The manufactured listed under Section RHCR 50 for the flip-up gates has not been reachable. After multiple emails and phone calls, we were unable to get in touch with them. Please provide an alternative manufacturer or a direct point of contact.	DDC has reached out the Flip Up Gate manufacturer listed under Section RHCR 50 and they are now reachable and have also reached out to bidders to follow-up and to provide quotes as requested.
75	Please provide a detail cross section steel sleeves item # RHCR 60. SS06 through Item RHCR-60. SS48.	Details for the steel sleeves are shown on STR57.
76	On Sheet 35 of 852 (TYP15/TYP18), the “Beard Street Typical Section” doesn’t show if the curbs at the Brooklyn Waterfront Greenway and the concrete buffer area are 28” curbs or if they are concrete headers. Please clarify.	Header not required as the concrete acts as the header.
77	On Sheet 35 of 852 (TYP15/TYP18), the “Halleck Street Typical Section” shows 28” curbs at the Brooklyn Waterfront Greenway and the concrete buffer area. However, the design of this curb was shown as concrete headers in other cross-sections. Please clarify if these are curbs or concrete headers.	Header not required as the concrete acts as the header.
78	On Sheet 35 of 852 (TYP15/TYP18), what is the depth of the concrete and the subbase of the concrete buffer areas shown in the typical sections?	Concrete buffer is 4" Concrete on 6" stone base. TYP15 has been revised to indicate this.
79	On Sheet 311 of 852 Floodwall # 14 Stations /elevation is not in Line with the wall profile on sheet 334 of 852. Please provide an updated plan/profile for the reference floodwall.	Stationing for FW#14 has been revised on STR19 and STR42.
80	Reference is made to drawing sheet 281 of 852 for "270 Richards Street, Block 612, Lot 150," which shows a trench drain to be installed for a total of 55 linear feet. Please specify under	Item no. RHCR - 6.94 FGD has been added to the trench drain callout on SIT15. Trench drain detail has been added to SIT20. Specification has been added to the G-Pages and Bid Schedule has been updated

No.	QUESTIONS	RESPONSES
	which item the referenced trench drain will be paid. Additionally, please provide a detailed section.	to include this item number.
81	Reference is made to drawing sheet 285 of 852 for " Block 605" which shows a trench drain to be installed for a total of 46 linear feet. Please specify under which item the referenced trench drain will be paid. Additionally, please provide a detailed section.	Item no. RHCR - 6.94 FGD has been added to trench drain callouts on SIT19 and trench drain detail has also been added on this sheet. Specification has been added to the G-Pages and Bid Schedule has been updated to include this item number.
82	Reference is made to drawing sheet 286 of 852 for block 605 which is showing guard booth to be removed, stored & reinstalled as manufacture direction. Please specify under which item the reference guard booth relocation will be paid. Please provide a detailed section.	Refer to SIT19, there is no separate payment for raising the guard booth. Refer to SIT20 for sections of guard booth raising.
83	Reference is made to drawing sheet 270 of 852 for block 610 lot 23 which is showing at section D-D trench drain and 6” HDPE. Please specify under which item the reference trench drain will be paid. Please provide a detailed section.	Item no. RHCR - 6.94 FGD has been added to the trench drain callout on SIT04.
84	Reference is made to drawing sheet 282 of 852 & drawing sheet 283 of 852 which is showing cross sections of different types of outside stairs under items RHCR-1RMS & 4.06 SL. Please can you provide a location where the work will take place?	Refer to SIT15 for Stair replacement locations.
85	Reference is made to drawing 405 of 852 for the proposal HPU 2 for gates 3,4,6 & 7, but the proposal 4” PVC lines only running between gates 2,3 & 6 is running to HUP 2, and proposal 4” PVC line for gate 7 and gate 8 is running to HPU 3. Please provide a clear direction on where the 4” hydraulic line for gate 7 is going?	Drawing sheets 405 (DPY10) and 408 (DPY13) have been corrected in a previous submission to indicate the correct connection between gates and HPU (HPU #1 for gate; HPU #2 for gates 3,4 & 6; HPU #3 for gates 7 & 8; HPU# 4 for gate 9; and HPU#5 for gate 10).
86	Reference is made to draw 350 of 852 through drawing 353 of 852 for typical section - utility crossing Type A, Type B & Type C. Please provide more	Please refer to Drawing numbers STR25 through STR52. There is a table that indicates the utility crossing type. Refer to Drawing numbers STR58 - STR61 for utility

No.	QUESTIONS	RESPONSES
	information when the reference cross section to be used.	crossing details.
87	On Sheet 354 of 852 (STR62/STR103), it shows the details of new stairs and ramps. However, we cannot find the locations of these stairs on the structural plans. Please clarify the locations of the proposed stairs.	Stair and ramp detail refers to the Ikea Pier as shown on SIT21. Callouts on STR19 and SIT21 have been updated.
88	Volume 3 sheet 439 of 774, B13 phasing states the project must be executed in two phases and The Beard Street alignment must be completed prior to beginning construction on the Atlantic Basin Alignment, to prevent conflicts with other projects in the area. Please advise what is considered completed. Is it possible to begin any of the utility work on the Atlantic Basin alignment if some of the work on the Beard Street alignment is completed? Is there a possibility that we could begin some of the work on the (North) Atlantic Basin Alignment wall if (South) Beard Street is partially completed. This is crucial in understanding the project schedule. Does the South Phase have to be completely signed off by DDC prior to beginning the North Phase?	This is to be decided on and coordinated with the project field office and the Engineer during construction.
89	Drawings SSP20 and URD20 (sheet numbers 506 and 668) indicate Proposed Pigmented Green Asphalt. Please provide details, specification and a pay item for this work.	The callouts on SSP20 and URD20 have been changed from "PROPOSED PIGMENTED GREEN ASPHALT" to "PROPOSED COLOR SURFACE TREATMENT FOR PAVEMENTS, ITEM NO. 6.44."
90	Please provide details for the following items • Item# RHCR 6.35T1P108 • Item# RHCR 6.35T1Z026 • Item# RHCR 6.35T2A046 • Item# RHCR 6.35T2A060 • Item# RHCR 6.35T2Z033 a. Please also locate item, Item#	Contractor shall provide shop drawings to match the existing for the Engineer's approval. a. Please refer to Drawing no. SIT19 for gate location. The callout was revised.

No.	QUESTIONS	RESPONSES
	RHCR 6.35T2A046 as it is not shown in the plans.	
91	Contract Drawings STR75 through STR97, show the locations of the Sewer Piles. The drawings show that the Sewer Piles are to be “Micropiles”. Contract Drawings STR98 through STR103, show the Sewer Pile Tables. The Sewer Pile Tables call for the Micropiles to be 9.625” diameter. Please clarify the following: 1. Per Addendum No. 5 the Sewer Pile Tables state that “ALL SEWER PILES TO BE PAID UNDER ITEM NO. RHCR9.18.08A”. However, the revised BID SCHEDULE shows that Bid Item No. RHCR9.18.08A calls for the Pile to be “11.875 IN O.D. X IN 0.582 IN. WALL THICKNESS MICROPILE-PLUMB”. Please clarify the following: - Is the Sewer Micropiles to be 9.625” OD Diameter as stated in the Sewer Pile Tables or 11.875” OD Diameter as shown in the BID SCHEDULE? - What is the correct wall thickness for the Sewer Micropiles? - Contract Drawings do not show a detail for the Sewer Micropiles that show the steel material required, wall thickness, grout material required, reinforcement required, etc. Contract Drawing STR65, show a Micropile Detail for the 13.625” dia. Micropiles for the Flood Wall. Please clarify and provide details for the Sewer Micropiles.	a. The sewer piles shall be 9.625" diameter. Please see revised bid items in the pile Specification and Bid Schedule. b. The correct wall thickness is 0.48". c. Please see STR65 for revised details.
92	Sheet 287 (SIT21) & Sheet 666 (URD18) show an area called out as Cobble Pavers\Paving. Both sheets call out for this item is to be paid for under Item No. 6.04. This item does not seem to be included in the contract. Please advise.	SIT21 and URD18 cobble paver item no. has been revised to 9.95 GSB.
93	Sheet 308 (STR16) & Sheet 398 (DPY03) show a retaining wall going	STR16 has been revised to include the alignment for FW-11 along Flip up gate 9

No.	QUESTIONS	RESPONSES
	from Flip-Up Gate No. 9 and intersecting wall FW11 at approximately 2+85. There is no wall number or profile associated with this wall. Please provide the missing information.	and the profile on STR36 has been updated to reflect the alignment.
94	Reference sewer pile plan STR94 sheet 386, and utility plan UTL20 sheet 447. After review of Addendum 5, it appears that the utility plan calls out a New Type B-1 Manhole on Piles at station BD 1014+00, but the sewer pile plans do not show piles for that spot. Please provide info about those piles if they exist.	Piles have been added to STR94.
95	Reference site plan SIT03 on sheet 269. There is a callout for a “NEW 29.4’, 12” E.S.V.P. COMB. SEWER ON CONC. CRADLE ON PILES”. The sewer pile plan STR88 on sheet 380 does not show piles for that run. Please clarify.	Sewer piles are not needed in this location. Callout on SIT03 has been updated.
96	In Sheets 267 & 270/ 852, multiple 6" HDPE lines can be located. Please confirm if these items fall under item 9.13 HD. Also, please confirm that in sheet 441/852, that the two inlet connections in this plan are also 6" HDPE pipes, and included in item 9.13 HD. If so, please verify the corresponding quantities.	Confirmed. 6" HDPE items are covered under item no. 9.13 HD. Bid Schedule quantities have been updated for 9.13 HD.
97	Both lightweight fill and clean fill are called out as item 4.11 A. Should these be two separate items? Can you please provide a specific spec (i.e. strength requirement, etc.) for these items and verify that the quantities are correct?	Specification for Section 4.11 - Lightweight fill has been added to the G- Pages. Wherever clean fill is being called out, it should be estimated under 4.11A.
98	Please locate Item 9.13 HD4 as it is not shown in the plans.	Please refer to the deployable plans.
99	Please confirm Item 4.14 Steel Reinforcement Bars, quantity.	Quantity has been confirmed.
100	Please confirm Item 6.75, Asphalt Grinding quantities and locations	Refer to Typical sections for locations of asphalt grinding. Asphalt grinding occurs in locations where the road is being

No.	QUESTIONS	RESPONSES
		resurfaced. Quantity of Item No 6.75 has been confirmed.
101	The I-Wall detail on STR57 shows the chamfer portion of the footing should be on flood side, however the Typical Sections do not always show this as the case. Please confirm that the side of the wall with the chamfer footing should always be on the flood side.	The side of the wall with the chamfer footing may vary in different locations but is primarily on the dry/protected side.
102	The Typical Sections show horizontal limits of excavation for the floodwalls varying between 1', 1.3', or no limits at all. Please confirm the limit of excavation for the floodwalls	Please refer to the structural plans which shows a dashed line indicating the limits of excavation (refer to legend on STR01). Contractor shall refer to these limits for bid quantities.
103	In the sheet pile table on STR58, the stations for FW05 were adjusted in Addendum 5, however these changes were not carried through into the lengths shown in the table or on the wall profile for FW05 on sheet STR31. Please provide an updated profile for FW05.	Stationing has been corrected to match the table, plan, and profile.
104	Ref drawing UTD05 shows plans and sections to construct a new pile supported regulator on Bowne Street however the plan drawing UTL02 states 'approximate limit of NYCDEP regulator chamber roof to be modified'. Is the regulator intended to be modified or demo exist/ and construct brand new? What is the scope required and what are the associated bid items for payment?	The regulator is intended to be only modified, not fully reconstructed, as shown in the details. The associated bid items are included in the details. Note has been added to UTD05, Contractor should provide shop drawings showing modifications of regulator at Bowne Street to meet new proposed elevations. For bid purposes, Contractor should utilize methods and item numbers shown in this detail.
105	Ref STR57 shows typical elevation and section for utilities to be disconnected, holes torched into the new I-Wall, then sleeve installed, utility reconnected inside the sleeve and sleeve plugged/ filled. When and where does this apply and what are the associated pay items? because drawing STR58, 60 & 61 are for utility crossings where the sheet piles stop either side of the utility.	Cost to be included in RHCR-60.SSXX items based on pipe size. STR57 - STR61 have been revised.

No.	QUESTIONS	RESPONSES
	Do the bid item RHCR-60.SS06 to 48 apply to STR57? The associated specification section requirements conflict will all the drawings mentioned here and the drawing details conflict with each other for sleeve sizing, plugging and filling. Nomenclature for casing pipe and carrier pipe is used incorrectly in the spec and drawings causing confusion.	
106	Bid Item 50.31SC10, '10" E.S.V.P. Sanitary Sewer on Concrete Cradle' was added in Addendum #5. After reviewing the contract drawings, we cannot find it. Please provide the page number for this item	UTL18, UPR13, UTS12 have been revised to 8" and pipe has been added to the Bid Schedule.
107	Reference profile UPR10 sheet 462 and plans UTL14, UTL16 on sheets 441 and 443. The run of 15" ESVP starting at station VB S 1070+00 is encased according to the profile, but the plans do not mention encasement. Please clarify.	Please refer to UTL14 and UTL 16 for revisions. 15" encased in concrete now match the profiles.
108	Contract Drawing UTD06 calls for the installation of five (5) Sluice Gates. In discussions with the manufacturers of the Sluice Gates, in order for them to give a price proposal, they are asking for the following information that appear to be missing from the contract documents: 1. Specifications required for the Sluice Gates that are not provided in the Contract Documents. 2. Mounting details for the Sluice Gates 3. Actuator details (manual or electric and what kind of actuators and which manufacturer are approved if electric) 4. Operating details and operating/head conditions	1. Specifications have been provided in SW-Pages. 2. Please refer to note 10 on UTD for mounting type. 3. Gates shall be operated manually as per note 9 on UTD06 and operated via lifting bar, see Lifting bar detail on UTD06. 4. Refer to Specification 51.11 sliding gate section 51.11.12.
109	Contract Drawings STR75 through STR97, show the locations of the Sewer Piles. The drawings show that the Sewer Piles are to be "Micropiles". Contract Drawings STR98 through	i. The sewer micropiles are 9.625" OD, as stated in the sewer pile tables. ii. 0.48" is the correct wall thickness.

No.	QUESTIONS	RESPONSES
	STR103, show the Sewer Pile Tables. The Sewer Pile Tables call for the Micropiles to be 9.625" diameter. Please clarify the following: 1. Per Addendum No. 5 the Sewer Pile Tables state that "ALL SEWER PILES TO BE PAID UNDER ITEM NO. RHCR9.18.08A". However, the revised BID SCHEDULE shows that Bid Item No. RHCR9.18.08A calls for the Pile to be "11.875 IN O.D. X IN 0.582 IN. WALL THICKNESS MICROPILE-PLUMB". Please clarify the following: i. Is the Sewer Micropiles to be 9.625" OD Diameter as stated in the Sewer Pile Tables or 11.875" OD Diameter as shown in the BID SCHEDULE? ii. What is the correct wall thickness for the Sewer Micropiles? iii. Contract Drawings do not show a detail for the Sewer Micropiles that show the steel material required, wall thickness, grout material required, reinforcement required, etc. Contract Drawing STR65, show a Micropile Detail for the 13.625" dia. Micropiles for the Flood Wall. Please clarify and provide details for the Sewer Micropiles. iv. Based on the sewer pile tables Drawings STR98-STR103 as stated above, our take off for sewer piles is approximately 52,000 VF. This is a drastic difference between the Bid Schedule Quantity of 5,500 VF. Please confirm that our take-off is correct based on pile length provided plus those corrected in Addendum #5. Will the Bid Schedule be modified to increase this quantity? v. Addendum #5 added piles on Drawing STR83 for an added manhole at Sullivan and Ferris Street. The 4 new piles were not added to the Pile	iii. See revised details on STR65. iv. Bid Schedule quantity has been modified. v. Yes, piles have been added to the pile table.

No.	QUESTIONS	RESPONSES
	Table. Will those be added?	
110	sheet 441/852, UTL 14, calls for 12" R.C.P Combined sewer on conc. cradle. This item is not on the bid schedule. Please advise.	12" RCP has been revised to 12" ESVP on UTL14 in a previous revision.
111	Details for Retaining walls 7 & 8 were added in Addendum #5. However there are no piles, sheets, seepage barrier etc. associated with them as in other similar walls. Is the intent to leave these walls without supports below? If not, please update the pile tables to include these walls.	RW07 and RW08 do not require piles, sheets, or a seepage barrier.
112	Item# RHCR 6.35T1Z026 located in sheet 268/852 is calls out to "remove and replace iron swing gate..". However, the bid item is called, "SLIDING GATE AT 261 CONOVER (26' LONG, BLOCK 6120, LOT 1)". Also, the specification for this item calls for a chain-link sliding gate, not an iron swing gate. Please confirm which reference to follow and what the work for this bid item involves.	Gate on SIT02 will be covered under PK-321C and SIT02 has been revised to reflect this change.
113	The total area to be regraded in private properties is around 20,000 sy as shown in the removal drawings. To perform this work we will need to remove fences, curbs, pavements, stairs, debris and obstacles, then regrade the subbase and restore everything to its previous conditions. Unfortunately, the information provided in the bid about this scope of work is minimal. To be able to price it we will need to know all details for pavements, curbs, fences, foundations, stairs... and their respective items and specs. Unless you are planning on provide all this information before the bid, we are kindly requesting NYCDDC to lump all regrading work in private properties in one item as an allowance to avoid assumptions that will have a great impact in the cost and schedule when	Bid Schedule includes estimated quantities for standard construction items (curbs sidewalks, asphalt, steps, etc.). Contractor is responsible to develop shop drawings for individual sites for approval prior to preforming the work. Contractor will be paid quantity of item used during construction. Please see MPT05.

No.	QUESTIONS	RESPONSES
	building this project.	
114	The following item numbers are listed in the Bid Schedule but are not reflected in the drawings: • Item# 4.05 AX • Item# 50.31SC15 • Item# 50.31SE15 Please confirm if these item numbers are included in this contract. If so, kindly provide their corresponding locations and clarify the scope associated with them	• Item# 4.05 AX - Please refer to highway plans for bus stop locations. • Item# 50.31SE15 – revised bid schedule in Addendum 5 by removing this Item.
115	Jet Grouting specification RHCR-522.08 Part (E) identifies “center-to-center spacing of jet grout elements shall… not be greater than 75% of the jet grout column diameter.” Drawing STR59 indicates jet grout column spacing of 3’ max for 5’-0” diameter jet grout columns, or 60% of the jet grout column diameter. Is there a prescribed jet grout column diameter and spacing, or is the detail in the drawings indicative?	Bidders should follow the spacing and diameter of jet grout columns as shown on the drawings. The Contractor may submit a value engineering alternative design for review and consideration.
116	In Section A of the Special Experience Requirements, the “Best Management Practice Work” option is blackened, but neither the “Restoration Specialist (Construction Monitor)” nor the “Erosion and Sediment Control Licensed/Certified Professional” sub-boxes are blackened. Do we still need to submit a Qualification Form for Best Management Practice Work when neither sub-option is checked?	As noted on the SER form, the special experience requirements in the specifications govern for execution of the work. The special experience listed in the “(A) SPECIAL EXPERIENCE REQUIREMENTS FOR THE BIDDER” only indicate that these requirements must be met at time of award, and that substitutions require the approval of the Engineer.

DDC PROJECT #: **SANDRDHK**

PROJECT NAME: **RED HOOK COASTAL RESILIENCY (RHCR) ATLANTIC BASIN AND BEARD STREET**

ATTACHMENT B – REVISIONS TO THE DOCUMENTS

1) Bid Schedule Revised →

   Item Added:

   40.0506FM, 40.0510FM, 50.31SE08, 52.21V06, 52.21V08, 52.21V10, 52.41V06R, 52.41V08R, 6.18 IFR4, 6.18 IFR6, 6.18 IFR8, 6.18 IFRX, 6.44 CST, 73.21AC, 73.31AE0, 73.61AT, RHCR - 6.94 FGD, RHCR 9.18HGPLT-C, RHCR 9.18HGPLT-L & RHCR 9.18HGPLT-T

   - **Item Removed:**

     6.21BC, BMP-7.102 Removed

   - **Item Quantity Revised:**

     RHCR9.18.08A

2) Drawings updated→

   The following Drawing sheets have been revised.
   - 01_General – R7: Add 7.
   - 02_General Details – R7: Add 7.
   - 03_Typical Sections – R7: Add 7.
   - 06_Highway Construction Plans – R6: Add 7.
   - 08_Site Plans and Details – R7: Add 7.
   - 09_Structural – R7: Add 7.
   - 10_Deployments – R5: Add 7.
   - 11_Utility Plans – R7: Add 7.
   - 12_Utility Profiles – R6: Add 7.
   - 13_Utility Sections – R6: Add 7.
   - 14_Signing and Striping – R7: Add 7.
   - 17_FDNY – R7: Add 7.
   - 21_Urban Design Plans – R7: Add 7.
   - 22_Landscape Design Plans – R6: Add 7.

3) Updated Volume 3

4) Reference Documents Added

   - RHCR Project Remedial Action Plan Volume 1
   - RHCR Project Remedial Action Plan Volume 2
   - Geotech Data Report

DDC PROJECT #: **SANDRDHK**

PROJECT NAME: **RED HOOK COASTAL RESILIENCY (RHCR) ATLANTIC BASIN AND BEARD STREET**

ATTACHMENT C – REVISIONS TO PASSPORT FORMS

This Addendum initiates Round 8 of the procurement.

Please note that numbering of addenda is independent of rounds.

Questionnaire Changes:

None

Item Grid Changes:

None

CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF INFRASTRUCTURE

ADDENDA CONTROL SHEET

BID SUBMISSION DATE/ TIME: February 3, 2025, between 8:30am and 11:00am
BID OPENING DATE/ TIME: February 3, 2025; 11:30am

PROJECT No. : SANDRDHK

TITLE: **RED HOOK COASTAL RESILIENCY (RHCR)**
ATLANTIC BASIN AND BEARD STREET

ADDENDA ISSUED	NO. OF DWG	DATE	APPROVED BY: SPECS UNIT	APPROVED BY: GENERAL COUNSEL
#1 Questions from Bidders and Responses to Questions Revisions to Documents; Revisions to PASSPort Forms	26	11/20/2024		
#2 Revised Bid Opening Date; Questions from Bidders and Responses to Questions; Revisions to Documents; Revisions to PASSPort Forms .	0	12/05/2024		
#3 Revised Bid Opening Date; Questions from Bidders and Responses to Questions; Revisions to Documents; Revisions to PASSPort Forms .	0	12/13/2024		
#4 Questions from Bidders and Responses to Questions; Revisions to Documents;	163	12/20/2024		
#5 Revised Bid Opening Date; Questions from Bidders and Responses to Questions; Revisions to Documents; Revisions to PASSPort Forms.	31	1/7/2025		
#6 Questions from Bidders and Responses to Questions; Revisions to Documents; Revisions to PASSPort Forms.		1/23/2025		
#7 Questions from Bidders and Responses to Questions; Revisions to Documents; Revisions to PASSPort Forms.		1/28/2025		
#8 Revised Bid Opening Date; Revisions to PASSPort Forms	0	1/29/2025		

THE CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF INFRASTRUCTURE

1/29/2025

ADDENDUM No. # 8

FOR FURNISHING ALL LABOR AND MATERIAL NECESSARY AND REQUIRED FOR:

85025B0025– SANDRDHK

RED HOOK COASTAL RESILIENCY (RHCR) ATLANTIC BASIN AND BEARD STREET

This addendum is issued for the purpose of amending the requirements of the Bid and Contract Documents and is hereby made a part of said Bid and Contract Documents to the same extent as though it were originally included therein.

The bidder is advised that the items listed below apply to the project:

1. **The Bid Opening for the contract described above scheduled for January 30, 2025, at 11:30 am is rescheduled to February 3, 2025, at 11:30 am. The question deadline for this solicitation was January 10, 2025, at noon.**

2. **Bidders Questions and Responses to Questions:**
   See Attachment A.

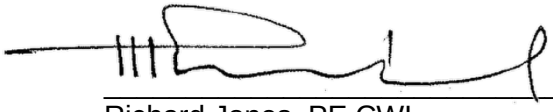
3. **Revisions to Documents:**
   See Attachment B.

4. **Revisions to PASSPort forms:**
   See Attachment C.

Transferring Data Between Rounds of an RFX: A new document titled “Transferring Data Between Rounds of an RFX” has been added to the Documents section of the View RFx tab. Please refer to this document when an addendum has been issued. Note: Whenever an addendum is issued, the RFX item grid will be cleared. You can import the work you have already done by following the steps on this document.

DDC strongly advises vendors to finalize and submit bids 48 hours prior to due date and time. The City is not responsible for technical issues (e.g. internet connection, power outages, technology malfunction, computer errors, etc.) related to bid submissions.

If additional information is required, please contact the Department of Design and Construction, Contract Section via PASSPort (in the Discussions with Buyer section).



for RJ

Richard Jones, PE CWI
Executive Director, Executive-Engineering Services

DDC PROJECT #: **SANDRDHK**

PROJECT NAME: **RED HOOK COASTAL RESILIENCY (RHCR) ATLANTIC BASIN AND BEARD STREET**

ATTACHMENT A - BIDDERS QUESTIONS AND DDC RESPONSES

None

DDC PROJECT #: **SANDRDHK**

PROJECT NAME: **RED HOOK COASTAL RESILIENCY (RHCR) ATLANTIC BASIN AND BEARD STREET**

ATTACHMENT B – REVISIONS TO THE DOCUMENTS

None

DDC PROJECT #: **SANDRDHK**

PROJECT NAME: **RED HOOK COASTAL RESILIENCY (RHCR) ATLANTIC BASIN AND BEARD STREET**

ATTACHMENT C – REVISIONS TO PASSPORT FORMS

This Addendum is within Round 8 of the procurement.

Please note that numbering of addenda is independent of rounds.

Bid Opening Date Changes:

The Bid Opening for the contract described above scheduled for January 30, 2025, at 11:30 am is rescheduled to February 3, 2025, at 11:30 am.

Questionnaire Changes:

None

Item Grid Changes:

None

Department of Design and Construction

DIVISION OF INFRASTRUCTURE
BUREAU OF DESIGN

VOLUME 3 OF 3

PROJECT ID: SANDRDHK

Red Hook Coastal Resiliency (RHCR)
Atlantic Basin and Beard Street

Including Roadway Reconstruction, Road Raising, Sidewalk and Curb Reconstruction, Retaining Structure, Floodwalls, Strom Sewer, Water Main, Pedestrian Ramps, Street Lighting, Pavement Marking and Traffic Signal Work

TOGETHER WITH ALL WORK INCIDENTAL THERETO

BOROUGH OF BROOKLYN
CITY OF NEW YORK

_____
Contractor

Dated_____**, 20**_____
