



**Department of
Design and
Construction**

**CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF PUBLIC BUILDINGS
VOLUME 1 – BID BOOKLET
SINGLE CONTRACT REVISED WICKS VERSION**

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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. One-page signed Bid Submission Form delivered in person to DDC before the bid due date; and
3. 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 deliver the certified check with the signed Bid Submission Form.

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

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

1. Any discrepancy between the total bid price listed on the Bid Submission Form and the bid information submitted in PASSPort.
2. Failure to upload required files or documents as part of a mandatory PASSPort Questionnaire response.
3. Uploading an incorrect file as part of a mandatory PASSPort Questionnaire response.
 - a. For clarity, this includes uploading the bid breakdown on a form other than the Excel file provided in the PASSPort Questionnaire.

Notices to Bidders

Single Contract

SINGLE CONTRACT: The requirements of the Wicks Law for separate prime contractors do not apply to this Project. The Project consists of a single contract.

PROJECT LABOR AGREEMENT: This contract is NOT subject to a Project Labor Agreement (“PLA”).

Pre Bid Questions (PBQs)

Please be advised that PBQs should be submitted to the Agency Contact Person (CSB_projectinquiries@ddc.nyc.gov) at least five (5) business days (by 5:00 PM EST) prior to the bid opening date as indicated in the PASSPort procurement.

All PBQs must reference the Project ID. If a bidder has multiple PBQs for the same Project ID, the PBQs must be numbered sequentially, even if they are submitted separately.

While the PASSPort system has a facility for submitting inquiries, bidders are directed to send PBQs as directed above instead of using the PASSPort inquiry system.

Inquiries sent using the PASSPort inquiry system will not be considered PBQs.

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 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. 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.

Part 1: M/WBE Participation Goals

Contract Overview (To be completed by contracting agency)

APT E-Pin# 85022B0079 FMS Project ID# PV040ELEV
 Project Title Flushing Town Hall Elevator Modernization Agency PIN# 85022B0079-PV040ELEV
 Contracting Agency NYC DDC Bid/Proposal Response Date 6/4/2021
 Agency Address 30-30 Thomson Ave City Long Island City State NY ZIP 11101
 Contact Person Brandon A. Milliner Sr. Title Design-Build M/WBE Compliance Analyst
 Telephone 718-391-1416 Email Millinebr@ddc.nyc.gov

Project Description (attach additional pages if necessary)

This project consists of the replacement of the elevator controller, replacement of walls, ceiling, and lights of the cabin interior, upgrade of the air condition system in the elevator room, installation of a pit sump pump, installation of new elevator hoist beam. revision and replacement of fire alarm.

Bidder or proposer ☐ is required OR ☐ is not required to specifically identify the contact information of all M/WBE firms they intend to use as a subcontractor on this contract, including the M/WBE vendor name, address and telephone number in the space provided below in Part 2 Section 4.

M/WBE Participation Goals for Services

Enter the percentage amount for each category or for an unspecified Goal.

Prime Contract Industry: Construction

Category and Breakdown:

Unspecified _____ %
 Black American 5.00 %
 Hispanic American 5.00 %
 Asian American _____ %
 Women _____ %

Total Participation Goals 10.00 %
 Line 1

Part 2: M/WBE Participation Plan

(To be completed by the bidder/proposer unless granted a full waiver, which must be submitted with the bid/proposal in lieu of this form)

Section 1: Prime Contractor Contact Information

Tax ID# 11-11734293 FMS Vendor ID# 0000460709
 Business Name Jobco Incorporated Contact Person Spiros Triantafyllou
 Business Address 277 Northern Blvd City Great Neck State NY ZIP 11021
 Telephone 516-487-0050 Email Striantafyllou@jobco.com

Section 3: Contractor M/WBE Utilization Plan

Please review the Notice to Prospective Contractors for more information on how to obtain credit for M/WBE participation. Check applicable box. The Proposer or Bidder will fulfill the M/WBE Participation Goals:

- ☐ As an M/WBE Prime Contractor that will self-perform and/or subcontract to other M/WBE firms a portion of the contract the value of which is at least the amount located on Lines 2 or 3 in the panels in Section 2, as applicable. The value of any work subcontracted to non-M/WBE firms will not be credited towards fulfillment of M/WBE Participation Goals. Please check all that apply to Prime Contractor: ☐ MBE ☐ WBE
- ☐ As a Qualified Joint Venture with an M/WBE partner, in which the value of the M/WBE partner's participation and/or the value of any work subcontracted to other M/WBE firms is at least the amount located on Lines 2 or 3 in the panels in Section 2, as applicable. The value of any work subcontracted to non-M/WBE firms will not be credited towards fulfillment of M/WBE Participation Goals.
- ☒ As a non-M/WBE Prime Contractor that will enter into subcontracts with M/WBE firms the value of which is at least the amount located on Lines 2 or 3 in the panels in Section 2, as applicable.

Section 2: M/WBE Utilization Goal Calculation

Prime Contractor Adopting Agency Participation Goals

For Prime Contractors (including Qualified Joint Ventures and M/WBE firms) adopting Agency M/WBE Participation Goals.

Total Bid/Proposal Value \$ 911,000.00
 multiplied by x
 Total Participation Goals 10.00 %
 (Line 1 above)

Calculated M/WBE Participation Amount \$ 91,100.00
 Line 2

OR

Prime Contractor With Partial Waiver Approval Adopting Revised Participation Goals

For Prime Contractors (including Qualified Joint Ventures and M/WBE firms) adopting Revised M/WBE Participation Goals.

Total Bid/Proposal Value \$ _____
 multiplied by x
 Total Revised Participation Goals _____ %

Calculated M/WBE Participation Amount \$ _____
 Line 3

Section 4: General Contract Information

What is the expected percentage of the total contract dollar value that you expect to award in subcontracts for services, regardless of M/WBE status?

19.00 %

Enter a brief description of the type(s) and dollar value of subcontracts for all services you plan to subcontract if awarded this contract, along with the anticipated start and end dates for such subcontracts. For each item, indicate whether the work is designated for participation by an M/WBE. Where the contracting agency's solicitation has indicated a requirement that the bidder or proposer specifically identify the contact information of all M/WBEs they intend to use on this contract, vendors must also include the M/WBE vendor name, address and telephone number in the space provided below. Use additional sheets if necessary.

Description of Work	Start Date (MM/YY)	End Date (MM/YY)	Planned \$ Amount	Designated for M/WBE		M/WBE Vendor Name	M/WBE Address	M/WBE Telephone
				Y	N			
1. Mechanical	08 / 22	10 / 22	\$ 28,000.00	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Dynaire Corporation	134 Herricks Rd 134 Herricks Rd Mineola, NY 11501	(516) 248 - 9550
2. Plumbing	10 / 22	11 / 22	\$ 22,000.00	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Maccarone Plumbing Inc.	10 Sea Cliff Ave Glen Cove, NY 11542	(516) 671 - 3232
3. Electrical	11 / 22	01 / 23	\$ 31,090.00	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Discover Electric	154 Roxan Road Rockville Center NY 11570	(516) 302 - 7798
4. Steel and Concrete	08 / 22	08 / 22	\$ 46,000.00	<input checked="" type="checkbox"/>	<input type="checkbox"/>	HHJR Construction Ltd	280 North Main Street Freeport NY 11520	(516) 623 - 9555
5. Demolition	08 / 22	08 / 22	\$ 46,000.00	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Green Island Group	45-7 Knickerbocker Avenue Bohemia, NY 11716	(831) 256 - 5711
6. _____	/	/	\$ _____	<input type="checkbox"/>	<input type="checkbox"/>	_____	_____	() -
7. _____	/	/	\$ _____	<input type="checkbox"/>	<input type="checkbox"/>	_____	_____	() -
8. _____	/	/	\$ _____	<input type="checkbox"/>	<input type="checkbox"/>	_____	_____	() -
9. _____	/	/	\$ _____	<input type="checkbox"/>	<input type="checkbox"/>	_____	_____	() -
10. _____	/	/	\$ _____	<input type="checkbox"/>	<input type="checkbox"/>	_____	_____	() -

Section 5: Vendor Certification and Required Affirmations

I hereby:

1. acknowledge my understanding of the M/WBE participation requirements as set forth herein and the pertinent provisions of Section 6-129 of the Administrative Code of the City of New York ("Section 6-129"), and the rules promulgated thereunder;
2. affirm that the information supplied in support of this 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
5. 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 6/27/22 the participation of certified MBE and/or WBE firms.

Signature



Date 6/27/22

Print Name

Spiros Triantafyllou

Title Project Manager

Bidder's Identification of Subcontractors (BIDS Form)

Please list the subcontractors and agreed-upon amounts to be paid to each. Please note if any trade is not applicable to this project. If any of the work in the trade categories below is split between two or more subcontractors, please provide a description of the work to be performed by each subcontractor. If self-performing, please list your own name.

Please Note: Bidder may satisfy any required M/WBE Subcontractor Participation Goals by proposing one or more M/WBE subcontractors for any portion of the work to be performed by the below trades.

- | | |
|--|---|
| 1. Plumbing and Gas Fitting Contractor(s): | Description of work for each subcontractor: |
| <u>Maccarone Plumbing Inc.</u>
(Subcontractor Name) | <u>Sump Pump</u> |
| \$ <u>22,000.00</u>
(Agreed-upon amount to be paid to Subcontractor) | |
| <u></u>
(Subcontractor Name) | |
| \$ <u></u>
(Agreed-upon amount to be paid to Subcontractor) | |
| | |
| 2. Steam Heating, Hot Water Heating, Ventilating and Air Conditioning Apparatus Contractor(s): | Description of work for each subcontractor: |
| <u>Dynaire</u>
(Subcontractor Name) | <u>Metal Duct,diffusers/Grills and control wiring</u> |
| \$ <u>28,000.00</u>
(Agreed-upon amount to be paid to Subcontractor) | |
| <u></u>
(Subcontractor Name) | |
| \$ <u></u>
(Agreed-upon amount to be paid to Subcontractor) | |
| | |
| 3. Electric Wiring and Standard Illuminating Fixtures Contractor(s): | Description of work for each subcontractor: |
| <u>Discover Electric</u>
(Subcontractor Name) | <u>Wiring and electrical work</u> |
| \$ <u>30,000.00</u>
(Agreed-upon amount to be paid to Subcontractor) | |
| <u></u>
(Subcontractor Name) | |
| \$ <u></u>
(Agreed-upon amount to be paid to Subcontractor) | |

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 disclosed in PASSPort.
5. The bidder hereby affirms that it 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.

QUALIFICATION FORM

Name of Contractor: Jobco Incorporated

Name of Project: DASNY Kings Bay YM-YWHA Storm Hardening and HAZMAT Abatement

Location of Project: 3495 Nostrand Avenue, Brooklyn, New York 11229

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

Name: Kelly E. Greenfield

Title: Senior Project Architect Phone Number: 646-518-6300

Brief description of the Project completed or the Project in progress: Replacing the roof, the installation of a new gas generator and interior work.

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

Amount of Contract, Subcontract or Sub-subcontract: \$1,433,000.00

Start Date and Completion Date: August 2020 – June 2021

Name of Contractor: Jobco Incorporated

Name of Project: DDC HRA Bronx Façade Restoration

Location of Project: 1138 Longfellow Ave, and 1275 Westchester Ave, Bronx, New York

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

Name: James Thorsen

Title: DDC Director Phone Number: 718-391-32421

Brief description of the Project completed or the Project in progress: Replacing of the roof and façade renovations

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

Amount of Contract, Subcontract or Sub-subcontract: \$3,376,000.00

Start Date and Completion Date: November 2014 – May 2019

BID SUBMISSION FORM

Bidder Name: Jobco Incorporated
Procurement Title: 85022B0079-PV040ELEV Flushing Town Hall
Elevator Modernization
RFx Name: 85022B0079-PV040ELEV Flushing Town Hall
Elevator Modernization

The above-named bidder affirms and declares:

1. The bidder has completed and submitted all required information for the above procurement in the PASSPort system;
2. Any discrepancy between the bid price listed on this Bid Submission Form and the bid information submitted in PASSPort may result in the agency finding the bid non-responsive; and
3. This bid is being submitted in accordance with New York State General Municipal Law § 103.

Lump Sum Bid Amount
(Bid Price Item Grid) \$ 896,000
+ All Allowances
(Allowances Item Grid) \$ 15,000.00

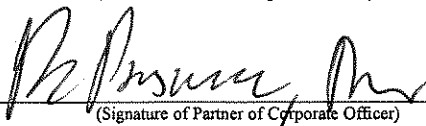
= Total Bid Price:
(a/k/a Total Amount) \$ 911,000

Bidder Signature

EIN (if applicable): 11-1734293
(EIN must match the EIN of the entity that submitted bid information in PASSPort)

Bidder Name: Jobco Incorporated

By: Robert M. Pascucci
(Name of Partner or Corporate Officer)

Signature: 
(Signature of Partner or Corporate Officer)

Code	Label	Additions	YOU MUST ENTER 1 IN THE BOXES BELOW	Additions _1	Field type
i2_1	ALLOWANCE for Incidental Asbestos Abatement (Section 028013 of the Specifications)	15000	1	15000	Additional Fees



**Department of
Design and
Construction**

CONTRACTOR'S BID BREAKDOWN FORM

CONTRACT 1 - GENERAL CONSTRUCTION

Project: Flushing Town Hall Elevator Modernization
Location: 137-35 Northern Boulevard, Flushing, NY 11355
Bidder: Jobco Incorporated

DDC ID: PV040ELEV
Sponsor Agency: DCLA

CSI Number	Description	Quantity	Unit	Total Cost of Material	Total Cost of Labor	Total Cost of Equipment	Total Cost: Materials, Labor and Equipment
04 0000	MASONRY						
04 2200	CONCRETE UNIT MASONRY						
	Grout Infill Existing CMU @ Base Plate	2	LOC	\$1,000	\$3,000.00		\$4,000.00
	Subtotal						\$4,000
05 0000	STRUCTURAL FRAMING						
05 1200	STRUCTURAL STEEL FRAMING						
	W8x15 Hoist Beam	6	LF	\$1,200	\$5,800.00		\$7,000.00
	Base Plate w/ 1" Grout	2	EA	\$800.00	\$1,200.00		\$2,000.00
	Shear Tab Connection	2	EA	\$800.00	\$1,200.00		\$2,000.00
	Subtotal						\$11,000
09 0000	FINISHES						
09 9110	PAINTING						
	Paint Walls at all Floors to Match Existing	1,000	SF	\$2,000	\$4,000.00		\$6,000.00
	Paint Machine Room Walls	600	SF	\$1,000.00	\$1,500.00		\$2,500.00
	Paint Machine Room Floors	80	SF	\$500.00	\$1,200.00		\$1,700.00
	Paint Door	1	EA	\$150.00	\$650.00		\$800.00



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Sponsor Agency: DCLA

CSI Number	Description	Quantity	Unit	Total Cost of Material	Total Cost of Labor	Total Cost of Equipment	Total Cost: Materials, Labor and Equipment
	Subtotal						\$11,000
14 0000	CONVEYING EQUIPMENT						
14 2100	HYDRAULIC ELEVATOR						
	Demolition of Cab & Doors	1	LS	\$8,000	\$42,000.00		\$50,000.00
	Door, Frame & Opener	1	LS	\$60,000.00	\$35,000.00		\$95,000.00
	Replace Call Buttons	1	LS	\$2,800.00	\$5,600.00		\$8,400.00
	New Cab	1	LS	\$32,000.00	\$25,000.00		\$57,000.00
	Panelled Ceiling	1	LS	\$3,500.00	\$4,000.00		\$7,500.00
	Rubber Floor Tile	1	LS	\$1,200.00	\$2,800.00		\$4,000.00
	Stainless Steel Returns	1	LS	\$2,000.00	\$3,000.00		\$5,000.00
	Subtotal						\$226,900.00
14 2410	DIRECT-ACTING IN-GROUND HYDRAULIC ELEVATOR, CONVEYING SYSTEMS						
	New Controller	1	LS	\$35,000.00	\$28,000.00		\$63,000.00
	Replace Cylinder Head Packing	1	LS	\$470.00	\$2,900.00		\$3,370.00
	Over-speed Valve	1	LS	\$4,000.00	\$10,000.00		\$14,000.00
	Miscellaneous	1	LS	\$5,200.00	\$11,800.00		\$17,000.00
	Replace Piston for 5-Stop Elevator (incl. Raise & Secure Elevator, Remove Piston, Re-Drill Shaft, Insert New Piston, Recharge w/Hydraulic Fluid and Make final connections)	1	LS	\$90,000.00	\$180,000.00		\$270,000.00
	Subtotal						\$367,370



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DDC ID: PV040ELEV
Sponsor Agency: DCLA

CSI Number	Description	Quantity	Unit	Total Cost of Material	Total Cost of Labor	Total Cost of Equipment	Total Cost: Materials, Labor and Equipment
22 0000	PLUMBING						
22 0513	COMMON MOTOR REQUIREMENTS FOR PLUMBING EQUIPMENT						
	Sump Pump in Existing Pit (1-1/2 HP, 1-1/2 Discharge), Modifying Existing Metal Grate for New Piping	1	EA	\$7,500	\$12,500.00		\$20,000.00
	Subtotal						\$20,000
22 0517	SLEEVES AND SLEEVE SEALS FOR PLUMBING						
	Wall Sleeve	2	EA	\$500	\$1,500.00		\$2,000.00
	Subtotal						\$2,000
22 0523.14	CHECK VALVES FOR PLUMBING PIPING						
	Check Valve	2	EA	\$800	\$1,200.00		\$2,000.00
	Subtotal						\$2,000
22 0523.15	GATE VALVES FOR PLUMBING PIPING (included w/ 220513)						
22 0529	HANGERS & SUPPORTS FOR PLUMBING PIPING AND EQUIPMENT						
	1-1/2" Discharge Pipe	60	LF	\$1,800	\$4,200.00		\$6,000.00
	Subtotal						\$6,000
22 0548.13	HANGERS & SUPPORTS FOR PLUMBING PIPING AND EQUIPMENT (included w/ 220529)						



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DDC ID: PV040ELEV
Sponsor Agency: DCLA

CSI Number	Description	Quantity	Unit	Total Cost of Material	Total Cost of Labor	Total Cost of Equipment	Total Cost: Materials, Labor and Equipment
22 0553	IDENTIFICATION FOR PLUMBING PIPING AND EQUIPMENT (included w/ 220529)						
22 1423	STORM DRAINAGE PIPING SPECIALTIES (included w/ 220529)						
22 1429	SUMP PUMPS (included w/ 220513)						
23 0000	HEATING, VENTILATION AND AIR CONDITIONING (HVAC)						
23 0513	COMMON MOTOR REQUIREMENTS FOR HVAC EQUIPMENT						
	Remove Existing Through Wall Air Conditioners, provide PTAC	1	EA	\$12,000	\$20,000.00		\$32,000.00
	Subtotal						\$32,000
23 0593	TESTING, ADJUSTING, AND BALANCING FOR HVAC (included w/ 230513)						
23 3113	METAL DUCTS						
	6" x 6" Permanently Open Outside Air Ventilation Duct w/ Wire Screen Mesh	1	LS	\$2,000.00	\$3,000.00		\$5,000.00
	Subtotal						\$5,000
23 3300	AIR DUCT ACCESSORIES						
	Backdraft Damper Motorized Activated with Thermostat	1	EA	\$1,500.00	\$3,000.00		\$4,500.00



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Sponsor Agency: DCLA

CSI Number	Description	Quantity	Unit	Total Cost of Material	Total Cost of Labor	Total Cost of Equipment	Total Cost: Materials, Labor and Equipment
	Subtotal						\$4,500
23 3423	HVAC POWER VENTILATORS						
	Exhaust Fan, Wall Mounted 1125 CFM, w/ Neoprene Vibration Pads	1	EA	\$1,500.00	\$3,500.00		\$5,000.00
	Subtotal						\$5,000
23 8113.11	AIR CONDITIONERS, THROUGH-WALL UNITS (included w/ 230513)						
26 0000	ELECTRICAL						
26 0500	COMMON WORK RESULTS FOR ELECTRICAL						
	Drawings, As Builts, Coordination	1	LS	\$2,500	\$2,500.00		\$5,000.00
	Subtotal						\$5,000
26 0501	BASIC ELECTRICAL MATERIAL AND METHODS						
	Exhaust Fan Circuitry	35	LS	\$1,500	\$5,600.00		\$7,100.00
	Remove & Replace 120V Receptacle w/ GFCI Receptacle	2	EA	\$150.00	\$200.00		\$350.00
	Emergency Circuit Re-Wiring	200	LS	\$16,000.00	\$14,000.00		\$30,000.00
	Subtotal						\$37,450
26 0519	BASIC ELECTRICAL MATERIAL AND METHODS						
	Emergency Battery to Lower Elevator & Open Door	1	LS	\$1,500	\$1,600.00		\$3,100.00
	Subtotal						\$3,100



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DDC ID: PV040ELEV
Sponsor Agency: DCLA

CSI Number	Description	Quantity	Unit	Total Cost of Material	Total Cost of Labor	Total Cost of Equipment	Total Cost: Materials, Labor and Equipment
26 0526	GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS (included w/ 260501)						
26 0533	RACEWAY AND BOXES FOR ELECTRICAL SYSTEMS (included w/ 260501)						
26 0553	IDENTIFICATION FOR ELECTRICAL SYSTEMS (included w/ 260501)						
26 2416	PANELBOARDS						
	Elevator Recall Panel, Connect to Exist	1	EA	\$2,000	\$4,000.00		\$6,000.00
	Subtotal						\$6,000
26 2813	FUSES (included w/ 262816)						
26 2816	ENCLOSED SWITCHES AND CIRCUIT BREAKERS						
	Fusible, Lockable Disconnect Switch for Lighting	6	EA	\$1,800	\$2,600.00		\$4,400.00
	Subtotal						\$4,400
28 0000	ELECTRICAL						
28 3111	ADDRESSABLE FIRE- ALARM SYSTEM						



**Department of
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DDC ID: PV040ELEV
Sponsor Agency: DCLA

CSI Number	Description	Quantity	Unit	Total Cost of Material	Total Cost of Labor	Total Cost of Equipment	Total Cost: Materials, Labor and Equipment
	Testing & Coordination w/Building System Vendor	1	LS	\$2,500	\$4,500.00		\$7,000.00
	Replace Fire Alarm Devices	1	LS	\$1,500.00	\$2,500.00		\$4,000.00
	Subtotal						\$11,000
	Asbestos Allowance			\$5,000.00	\$10,000.00		\$15,000
	TOTAL CONTRACT 1 - GENERAL CONSTRUCTION WORK						\$911,000.00

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.

- (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 DDC 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. 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)

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)
Great Neck Library 26 Great Neck Road Great Neck, NY 11021	GC- Interior Renovation	\$426,000.00	October 2022	Denise Corcoran Director 516-466-8055	Elisabeth Martin MDA Design Group 212-627-7788
Kings Bay YM-YWHA - DASNY 3495 Nostrand Avenue Brooklyn NY 11229	GC-Roof Replacement gas generator, interior work	\$1,433,000.00	June 2021	Noberto Dolores Project Manager 917-417-1467	Kelly E. Greenfield H2M Architects and Engineers 646-518-6300
478-480 Central Park West New York NY 10025	GC- Interior renovations	\$4,000,000.00	December 2020	Neeraj Sharma 212-977-0000 x 227	Fernando Papale 212-710-0500
HRA Bronx DDC 1138 Longfellow Ave 1275 Westchester Ave	Facade restorations roof replacement interior work	\$3,376,000.00	May 2019	Robin Gordon Project Manager 347-242-9495	Nelligan White Architects 212-675-0500
HRA Brooklyn DDC 970 Dekalb Ave 217 Hart Street Brooklyn NY, 1122	Facade restorations	\$3,878,000.00	December 2018	Robin Gordon Project Manager 347-242-9495	Nelligan White Architects 212-675-0500
Downtown Art DDC 70 East 4th Street New York NY 10003	Gut Rehabilitation	\$2,848,000.00	May 2016	Antoine Hitti 646-235-3407	Charles Rose Architects Inc. 617-628-5033

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)

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)
Downtown Art Phase 2 DDC 70 East 4th Street New York NY 10003	Rehabilitation	\$1,433,000.00	\$600,000.00	\$1,120,000.00	October 2023	Antoine Hitti 646-235-3407	DDC In House. Design Studio
Choircirciati Cultural Center 64 East 4th Street	Facade Renovation and Expansion	\$2,143,000	\$1,000,000.00	\$1,570,000.00	December 2023	Antoine Hitt 646-235-3407	Rice + Lipka Architects 212-285-1003
BCC Snow Hall 135 Hall of Fame Terrace Bronx NY 10453	New Elevator	\$911,000.00	\$300,000.00	\$859,000.00	October 2023	Samir Rimawi 718-933-9535 917-295-5291	Cutis + Ginsberg Architect LLP 212-929-4417
523-531 Middle Neck Road Great Neck, NY 11023	New Construction	\$6,439,500.00	\$3,600 000.00	\$1,763,003.00	December 2022	Silver Lake Reality Group Steven Kuo 917-815-3100	Raymond Chan 718-445-2345

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)

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: Jobco Incorporated

DDC Project Number: PV040ELEV PIN# 85022B0079

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	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Residential Building Construction	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Nonresidential Building Construction	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Heavy Construction, except building	<input type="checkbox"/>	<input type="checkbox"/>
Highway and Street Construction	<input type="checkbox"/>	<input type="checkbox"/>
Heavy Construction, except highways	<input type="checkbox"/>	<input type="checkbox"/>
Plumbing, Heating, HVAC	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Painting and Paper Hanging	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Electrical Work	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Masonry, Stonework and Plastering	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Carpentry and Floor Work	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Roofing, Siding, and Sheet Metal	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Concrete Work	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Specialty Trade Contracting	<input type="checkbox"/>	<input type="checkbox"/>
Asbestos Abatement	<input type="checkbox"/>	<input type="checkbox"/>
Other (specify) _____	<input type="checkbox"/>	<input type="checkbox"/>

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
2021	1.01	1.01
2020	.89	.89
2019	.88	.88

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.

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

YEAR	TOTAL NUMBERS OF HOURS WORKED BY EMPLOYEES	INCIDENT RATE
2021	41,600	NONE
2020	41,600	NONE
2019	42640	NONE

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: 6/23/22

By: 
(Signature of Bidder: Owner, Partner, Corporate Officer)

Title: President

ADDENDA CONTROL SHEET

TITLE: Flushing Town Hall Elevator Modernization

**GENERAL
COUNSEL**

[illegible]

THE CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF PUBLIC BUILDINGS

May 19, 2022

ADDENDUM No. # 1

FOR FURNISHING ALL LABOR AND MATERIAL NECESSARY AND REQUIRED FOR:

85022B0079 - PV040ELEV

Flushing Town Hall Elevator Modernization

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 at (718) 391-1041 or by email at CSB_projectinquiries@ddc.nyc.gov.

Richard Jones, PE CWI
Executive Director, Specifications

DDC PROJECT #: PV040ELEV

PROJECT NAME: Flushing Town Hall Elevator Modernization

ATTACHMENT A - BIDDERS QUESTIONS AND DDC RESPONSES

No.	Bidders Questions	DDC Responses
1	Please confirm if this Contract is subject to Provisions of PLA.	No, this Contract is not subject to the PLA. Refer to updated Volume 2, included with this Addendum.
2	The Bid Breakdown excel file is locked and does not allow us to fill in the bidder name. Do we have to use this sheet, only without the bidder's name?	Bid Breakdown form has been unlocked to allow for entering the name of bidder. See updated file in the PASSPort Questionnaire.

DDC PROJECT #: PV040ELEV

PROJECT NAME: Flushing Town Hall Elevator Modernization

ATTACHMENT B – REVISIONS TO THE DOCUMENTS

Volume 2: references to Project Labor Agreement (PLA) have been removed

DDC PROJECT #: PV040ELEV

PROJECT NAME: Flushing Town Hall Elevator Modernization

ATTACHMENT C – REVISIONS TO PASSPORT FORMS

This Addendum initiates Round 2 of the procurement.

Please note that numbering of addenda is independent of rounds.

Questionnaire Changes:

- Bid Breakdown has been unlocked to allow for entering the name of bidder.

Item Grid Changes:

None

ADDENDA CONTROL SHEET

TITLE: Flushing Town Hall Elevator Modernization

**GENERAL
COUNSEL**

[illegible]

THE CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF PUBLIC BUILDINGS

May 23, 2022

ADDENDUM No. # 2

FOR FURNISHING ALL LABOR AND MATERIAL NECESSARY AND REQUIRED FOR:

85022B0079 - PV040ELEV

Flushing Town Hall Elevator Modernization

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.

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If additional information is required, please contact the Department of Design and Construction, Contract Section at (718) 391-1041 or by email at CSB_projectinquiries@ddc.nyc.gov.

Richard Jones, PE CWI
Executive Director, Specifications

DDC PROJECT #: PV040ELEV

PROJECT NAME: Flushing Town Hall Elevator Modernization

ATTACHMENT A - BIDDERS QUESTIONS AND DDC RESPONSES

No.	Bidders Questions	DDC Responses
1	Where can we locate the bid forms? Volume 1 does not contain any bid forms – just project references.	Please refer to the questionnaire in PASSPort RFx, when logged in as a vendor.
2	There are conflicting directions for bid submittal documents. Notice to bidders - New bid submission procedures due to Covid 19 states that the bid documents are to be delivered to DDC office bldg. at 3030 Thompson Avenue but the Bid book volume 1 page 3 states "Bidders are advised that paper bid submissions will be deemed non-responsive, bidders must submit their bids electronically in passport, provide bid security and deliver (by hand?) to DDC the one paged signed bid submission for the bid to be considered responsive. Which is it – hand delivered bid submission or electronic or both? Again - we cannot locate the actual bid forms anywhere in the documents provided on Passport. The 2 submission statements found in the bid instructions noted above contradict each other. Please clarify this and provide the bid forms.	Both. Please refer to the questionnaire in the PASSPort RFx, when logged in as a vendor. For assistance with PASSPort, please contact MOCS: https://mocssupport.atlassian.net/servicedesk/customer/portal/8
3	Documents state there will be an optional pre bid site visit on the 19 th at 10am. Who will be conducting the site visit? Do we need to contact them to advise of attendance? What are the COVID protocols for the site visit?	Site visit was held on May 19 th , 2022, at 10:00am. No additional site visits will be scheduled.

4	We have done several DDC projects where the bid documents and Addendum to the General Conditions require a DDC field trailer to be provided such as these project documents note. However, due to lack of space, the trailers were negated on the other projects. Will the DDC field trailer requirement be used for this project or not?	DDC field office will be required for this project. Please refer to the Volume 3 of 3, Addendum to the General Conditions, page 4 of 20.
5	Re: DDC General Conditions Section #015411-6 Article 3.3. The Addendum to the General Conditions says this applies. Is there another elevator in the building that will be the responsibility of the contractor?	There is one elevator in the building, and the existing elevator is currently operational. Please refer to the Volume 3 of 3, Addendum to the General Conditions, Page 4 of 20. DDC General Conditions Section 015411, Article 3.3 (A-E) 'Temporary use, Operation and Maintenance of Elevators During Construction for Existing Buildings' is applicable for this project.

DDC PROJECT #: PV040ELEV

PROJECT NAME: Flushing Town Hall Elevator Modernization

ATTACHMENT B – REVISIONS TO DOCUMENTS

NOT USED

DDC PROJECT #: PV040ELEV

PROJECT NAME: Flushing Town Hall Elevator Modernization

ATTACHMENT C – REVISIONS TO PASSPORT FORMS

This Addendum is included within Round 2 of the procurement.

Please note that numbering of addenda is independent of rounds.

Questionnaire Changes:

None

Item Grid Changes:

None

ADDENDA CONTROL SHEET

TITLE: Flushing Town Hall Elevator Modernization

**GENERAL
COUNSEL**

[illegible]

THE CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF PUBLIC BUILDINGS

May 31, 2022

ADDENDUM No. # 3

FOR FURNISHING ALL LABOR AND MATERIAL NECESSARY AND REQUIRED FOR:

85022B0079 - PV040ELEV

Flushing Town Hall Elevator Modernization

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 below scheduled for June 2, 2022, at 2:30 pm is rescheduled to June 9, 2022 at 2:30 pm.**
Contract #1 – General Construction Work
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 at (718) 391-1041 or by email at CSB_projectinquiries@ddc.nyc.gov.

Richard Jones, PE CWI
Executive Director, Specifications

DDC PROJECT #: PV040ELEV

PROJECT NAME: Flushing Town Hall Elevator Modernization

ATTACHMENT A - BIDDERS QUESTIONS AND DDC RESPONSES

NOT USED

DDC PROJECT #: PV040ELEV

PROJECT NAME: Flushing Town Hall Elevator Modernization

ATTACHMENT B – REVISIONS TO DOCUMENTS

NOT USED

DDC PROJECT #: PV040ELEV

PROJECT NAME: Flushing Town Hall Elevator Modernization

ATTACHMENT C – REVISIONS TO PASSPORT FORMS

This Addendum is included within Round 2 of the procurement.

Please note that numbering of addenda is independent of rounds.

Bid Opening Date Changes:

The Bid Opening scheduled for June 2, 2022 at 2:30pm is rescheduled for June 9, 2022 at 2:30pm.

Questionnaire Changes:

None

Item Grid Changes:

None

ADDENDA CONTROL SHEET

PROJECT No. : **PV040ELEV**

TITLE: Flushing Town Hall Elevator Modernization

ADDENDA ISSUED

DATE

**GENERAL
COUNSEL**

[illegible]

THE CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF PUBLIC BUILDINGS

June 1, 2022

ADDENDUM No. # 4

FOR FURNISHING ALL LABOR AND MATERIAL NECESSARY AND REQUIRED FOR:

85022B0079 - PV040ELEV

Flushing Town Hall Elevator Modernization

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.

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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 at (718) 391-1041 or by email at CSB_projectinquiries@ddc.nyc.gov.

Richard Jones, PE CWI
Executive Director, Specifications

DDC PROJECT #: PV040ELEV

PROJECT NAME: Flushing Town Hall Elevator Modernization

ATTACHMENT A - BIDDERS QUESTIONS AND DDC RESPONSES

No.	Bidders Questions	DDC Responses
1	Drawing FA-001.00 - Note 24 indicates, "All Fire Alarm Devices and Programming shall be purchased from the Building Fire Alarm Vendor". Please provide the contact information of existing building fire alarm vendor.	The existing Fire Alarm vendor is MARLARM SECURITY GROUP, contact number is (800) 797-9001.
2	Please issue list of bidders those attended pre-bid conference.	Pre-bid conference sign-in sheet is included with this Addendum.
3	Please inform locations of existing electrical pad.	Location as noted on drawing E-100.00 is included with this Addendum. Connect to existing Electrical Panel PP-Mer Panel.
4	Please inform if any monthly maintenance of elevator is required.	Contractor is responsible for maintenance of elevator up until project substantial completion.
5	Quarry tile floor is indicated in the bid breakdown; however, per the legend on drawing A101, rubber floor tile is to be installed. Please clarify which one is correct.	Contractor to install rubber flooring tiles. Bid Breakdown has been updated in the PASSPort Questionnaire.
6	If you are requiring a full hard copy original bid package delivered to DDC main office in LIC before Bid Due Date deadline, then why does it also have to be submitted online in PASSPORT. Why both methods?	Only the Bid Submission Form and, if applicable, certified check, must be delivered to DDC. Refer to "DDC PASSPort Bid Information" in the PASSPort RFx for clarification.
7	Please provide a copy of planholder list.	Planholder list is included with this Addendum.
8	Please advise if storage areas inside building will be made available for our tools and equipment, and approximate size and location of storage areas.	There is limited space available in the facility. A small area can be made available for small tools and/or Gang box. This space will not be a locked/secured space.
9	What is size of existing sump pump pit?	The existing elevator pit is approximately 2'-0" X 2'-0" X 24" high. Contractor to verify in field.
10	Please provide name and contact information for building HVAC BMS Controls System.	No BMS control system is required.

DDC PROJECT #: PV040ELEV

PROJECT NAME: Flushing Town Hall Elevator Modernization

ATTACHMENT B – REVISIONS TO THE DOCUMENTS

Revisions to the Drawings:

E-100.00 updated to include location of existing panels.

Pre-Bid Conference Sign In Sheet is included with this Addendum.

Planholders List is included with this Addendum.

DDC PROJECT #: PV040ELEV

PROJECT NAME: Flushing Town Hall Elevator Modernization

ATTACHMENT C – REVISIONS TO PASSPORT FORMS

This Addendum initiates Round 3 of the procurement.

Please note that numbering of addenda is independent of rounds.

Questionnaire Changes:

Bid Breakdown Section 142100: “Quarry Tile” has been replaced with “Rubber Floor Tile.”

Item Grid Changes:

None

ADDENDA CONTROL SHEET

TITLE: Flushing Town Hall Elevator Modernization

**GENERAL
COUNSEL**

[illegible]

THE CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF PUBLIC BUILDINGS

June 6, 2022

ADDENDUM No. # 5

FOR FURNISHING ALL LABOR AND MATERIAL NECESSARY AND REQUIRED FOR:

85022B0079 - PV040ELEV

Flushing Town Hall Elevator Modernization

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 at (718) 391-1041 or by email at CSB_projectinquiries@ddc.nyc.gov.

Richard Jones, PE CWI
Executive Director, Specifications

DDC PROJECT #: PV040ELEV

PROJECT NAME: Flushing Town Hall Elevator Modernization

ATTACHMENT A - BIDDERS QUESTIONS AND DDC RESPONSES

No.	Bidders Questions	DDC Responses
1	It seems the Cell B7 in Excel Sheet "PV040ELEV_Bid_Breakdown_Locked.xls" is locked and does not allow us to fill in the Bidder's Name. Do we have to use this sheet only, without the Bidder's Name?	Bid Breakdown form has been unlocked to allow for entering the name of bidder. See updated file in the PASSPort Questionnaire.

DDC PROJECT #: PV040ELEV

PROJECT NAME: Flushing Town Hall Elevator Modernization

ATTACHMENT B – REVISIONS TO THE DOCUMENTS

NOT USED

DDC PROJECT #: PV040ELEV

PROJECT NAME: Flushing Town Hall Elevator Modernization

ATTACHMENT C – REVISIONS TO PASSPORT FORMS

This Addendum initiates Round 4 of the procurement.

Please note that numbering of addenda is independent of rounds.

Questionnaire Changes:

- Bid Breakdown has been unlocked to allow for entering the name of bidder.

Item Grid Changes:

None

ADDENDA CONTROL SHEET

PROJECT No. : **PV040ELEV**

TITLE: Flushing Town Hall Elevator Modernization

ADDENDA ISSUED

DATE

**GENERAL
COUNSEL**

[illegible]

THE CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF PUBLIC BUILDINGS

June 7, 2022

ADDENDUM No. # 6

FOR FURNISHING ALL LABOR AND MATERIAL NECESSARY AND REQUIRED FOR:

85022B0079 - PV040ELEV

Flushing Town Hall Elevator Modernization

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.

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Richard Jones, PE CWI
Executive Director, Specifications

DDC PROJECT #: PV040ELEV

PROJECT NAME: Flushing Town Hall Elevator Modernization

ATTACHMENT A - BIDDERS QUESTIONS AND DDC RESPONSES

NOT USED

DDC PROJECT #: PV040ELEV

PROJECT NAME: Flushing Town Hall Elevator Modernization

ATTACHMENT B – REVISIONS TO THE DOCUMENTS

NOT USED

DDC PROJECT #: PV040ELEV

PROJECT NAME: Flushing Town Hall Elevator Modernization

ATTACHMENT C – REVISIONS TO PASSPORT FORMS

This Addendum initiates Round 5 of the procurement.

Please note that numbering of addenda is independent of rounds.

Bid Opening Link Changes:

The link to the Bid Opening has been revised to the following:

https://www.youtube.com/playlist?list=PLKYRN_jd7vvfhJ3NGqCkJ2n32mGvlcpVR

Questionnaire Changes:

None

Item Grid Changes:

None

ADDENDA CONTROL SHEET

TITLE: Flushing Town Hall Elevator Modernization

**GENERAL
COUNSEL**

[illegible]

THE CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF PUBLIC BUILDINGS

June 8, 2022

ADDENDUM No. # 7

FOR FURNISHING ALL LABOR AND MATERIAL NECESSARY AND REQUIRED FOR:

85022B0079 - PV040ELEV

Flushing Town Hall Elevator Modernization

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 below scheduled for June 9, 2022, at 2:30 pm is rescheduled to June 17, 2022 at 2:30 pm.**
Contract #1 – General Construction Work
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 at (718) 391-1041 or by email at CSB_projectinquiries@ddc.nyc.gov.

Richard Jones, PE CWI
Executive Director, Specifications

DDC PROJECT #: PV040ELEV

PROJECT NAME: Flushing Town Hall Elevator Modernization

ATTACHMENT A - BIDDERS QUESTIONS AND DDC RESPONSES

NOT USED

DDC PROJECT #: PV040ELEV

PROJECT NAME: Flushing Town Hall Elevator Modernization

ATTACHMENT B – REVISIONS TO THE DOCUMENTS

NOT USED

DDC PROJECT #: PV040ELEV

PROJECT NAME: Flushing Town Hall Elevator Modernization

ATTACHMENT C – REVISIONS TO PASSPORT FORMS

This Addendum is included within Round 5 of the procurement.

Please note that numbering of addenda is independent of rounds.

Bid Opening Date Changes:

The Bid Opening scheduled for June 9, 2022 at 2:30pm is rescheduled for June 17, 2022 at 2:30pm.

Questionnaire Changes:

None

Item Grid Changes:

None

CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF PUBLIC BUILDINGS

ADDENDA CONTROL SHEET

BID SUBMISSION DATE/ TIME: June 17, 2022; between 11:30am and 2:00pm
BID OPENING DATE/ TIME: June 17, 2022; 2:30pm

PROJECT No. : **PV040ELEV**

TITLE: **Flushing Town Hall Elevator Modernization**

ADDENDA ISSUED	APPROVED BY:			
	NO. OF DWG	DATE	ARCHITECTURE/ ENGINEERING	GENERAL COUNSEL
#1 Questions from Bidders and Responses to Questions; Revisions to Documents; Revisions to PASSPort Forms		5/19/2022		
#2 Questions from Bidders and Responses to Questions; Revisions to Documents; Revisions to PASSPort Forms		5/23/2022		
#3 Revised Bid Opening Date; Questions from Bidders and Responses to Questions; Revisions to Documents; Revisions to PASSPort Forms		5/31/2022		
#4 Questions from Bidders and Responses to Questions; Revisions to Documents; Revisions to PASSPort Forms		6/1/2022		
#5 Questions from Bidders and Responses to Questions; Revisions to Documents; Revisions to PASSPort Forms		6/6/2022		
#6 Questions from Bidders and Responses to Questions; Revisions to Documents; Revisions to PASSPort Forms		6/7/2022		
#7 Revised Bid Opening Date; Questions from Bidders and Responses to Questions; Revisions to Documents; Revisions to PASSPort Forms		6/8/2022		
#8 Questions from Bidders and Responses to Questions; Revisions to Documents; Revisions to PASSPort Forms		6/9/2022	<i>Sarah Zomick</i>	<i>hp</i> 6-9-22

THE CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF PUBLIC BUILDINGS

June 9, 2022

ADDENDUM No. # 8

FOR FURNISHING ALL LABOR AND MATERIAL NECESSARY AND REQUIRED FOR:

85022B0079 - PV040ELEV

Flushing Town Hall Elevator Modernization

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 at (718) 391-1041 or by email at CSB_projectinquiries@ddc.nyc.gov.

Richard Jones, PE CWI
Executive Director, Specifications

DDC PROJECT #: PV040ELEV

PROJECT NAME: Flushing Town Hall Elevator Modernization

ATTACHMENT A - BIDDERS QUESTIONS AND DDC RESPONSES

No.	Bidders Questions	DDC Responses
1	Per addendum #4, the existing fire alarm vendor was noted as Marlarm Security Group. We have been informed by Marlarm that they are not responsible for the fire alarm in the building. Please advise.	Fire Alarm inspection vendor is Marlarm Security Group, contact number is (800) 797-9001. Fire Alarm monitoring vendor is Rapid Response Monitoring Service (800) 932-3822.
2	Passport form GML-101 requires to "upload completed version in Sealed Subcontractor sub list sub tab of Subcontractors and joint ventures tab of the RFX." However, there is no such sub tab under Joint Venture. Please advise as to where this form is to be uploaded?	Please contact MOCS for assistance: https://mocssupport.atlassian.net/servicedesk/customer/portal/8

DDC PROJECT #: PV040ELEV

PROJECT NAME: Flushing Town Hall Elevator Modernization

ATTACHMENT B – REVISIONS TO THE DOCUMENTS

NOT USED

DDC PROJECT #: PV040ELEV

PROJECT NAME: Flushing Town Hall Elevator Modernization

ATTACHMENT C – REVISIONS TO PASSPORT FORMS

This Addendum is included within Round 5 of the procurement.

Please note that numbering of addenda is independent of rounds.

Questionnaire Changes:

None

Item Grid Changes:

None

QUALIFICATION FORM

Name of Contractor: Jobco Incorporated

Name of Project: DASNY Kings Bay YM-YWHA Storm Hardening and HAZMAT Abatement

Location of Project: 3495 Nostrand Avenue, Brooklyn, New York 11229

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

Name: Kelly E. Greenfield

Title: Senior Project Architect Phone Number: 646-518-6300

Brief description of the Project completed or the Project in progress: Replacing the roof, the installation of a new gas generator and interior work.

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

Amount of Contract, Subcontract or Sub-subcontract: \$1,433,000.00

Start Date and Completion Date: August 2020 – June 2021

Name of Contractor: Jobco Incorporated

Name of Project: DDC HRA Bronx Façade Restoration

Location of Project: 1138 Longfellow Ave, and 1275 Westchester Ave, Bronx, New York

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

Name: James Thorsen

Title: DDC Director Phone Number: 718-391-32421

Brief description of the Project completed or the Project in progress: Replacing of the roof and façade renovations

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

Amount of Contract, Subcontract or Sub-subcontract: \$3,376,000.00

Start Date and Completion Date: November 2014 – May 2019



**Department of
Design and
Construction**

CONTRACTOR'S BID BREAKDOWN FORM

CONTRACT 1 - GENERAL CONSTRUCTION

Project: Flushing Town Hall Elevator Modernization
Location: 137-35 Northern Boulevard, Flushing, NY 11355
Bidder: Jobco Incorporated

DDC ID: PV040ELEV
Sponsor Agency: DCLA

CSI Number	Description	Quantity	Unit	Total Cost of Material	Total Cost of Labor	Total Cost of Equipment	Total Cost: Materials, Labor and Equipment
04 0000	MASONRY						
04 2200	CONCRETE UNIT MASONRY						
	Grout Infill Existing CMU @ Base Plate	2	LOC	\$1,000	\$3,000.00		\$4,000.00
	Subtotal						\$4,000
05 0000	STRUCTURAL FRAMING						
05 1200	STRUCTURAL STEEL FRAMING						
	W8x15 Hoist Beam	6	LF	\$1,200	\$5,800.00		\$7,000.00
	Base Plate w/ 1" Grout	2	EA	\$800.00	\$1,200.00		\$2,000.00
	Shear Tab Connection	2	EA	\$800.00	\$1,200.00		\$2,000.00
	Subtotal						\$11,000
09 0000	FINISHES						
09 9110	PAINTING						
	Paint Walls at all Floors to Match Existing	1,000	SF	\$2,000	\$4,000.00		\$6,000.00
	Paint Machine Room Walls	600	SF	\$1,000.00	\$1,500.00		\$2,500.00
	Paint Machine Room Floors	80	SF	\$500.00	\$1,200.00		\$1,700.00
	Paint Door	1	EA	\$150.00	\$650.00		\$800.00



**Department of
Design and
Construction**

CONTRACTOR'S BID BREAKDOWN FORM

CONTRACT 1 - GENERAL CONSTRUCTION

Project: Flushing Town Hall Elevator Modernization
Location: 137-35 Northern Boulevard, Flushing, NY 11355
Bidder: Jobco Incorporated

DDC ID: PV040ELEV
Sponsor Agency: DCLA

CSI Number	Description	Quantity	Unit	Total Cost of Material	Total Cost of Labor	Total Cost of Equipment	Total Cost: Materials, Labor and Equipment
	Subtotal						\$11,000
14 0000	CONVEYING EQUIPMENT						
14 2100	HYDRAULIC ELEVATOR						
	Demolition of Cab & Doors	1	LS	\$8,000	\$42,000.00		\$50,000.00
	Door, Frame & Opener	1	LS	\$60,000.00	\$35,000.00		\$95,000.00
	Replace Call Buttons	1	LS	\$2,800.00	\$5,600.00		\$8,400.00
	New Cab	1	LS	\$32,000.00	\$25,000.00		\$57,000.00
	Panelled Ceiling	1	LS	\$3,500.00	\$4,000.00		\$7,500.00
	Rubber Floor Tile	1	LS	\$1,200.00	\$2,800.00		\$4,000.00
	Stainless Steel Returns	1	LS	\$2,000.00	\$3,000.00		\$5,000.00
	Subtotal						\$226,900.00
14 2410	DIRECT-ACTING IN-GROUND HYDRAULIC ELEVATOR, CONVEYING SYSTEMS						
	New Controller	1	LS	\$35,000.00	\$28,000.00		\$63,000.00
	Replace Cylinder Head Packing	1	LS	\$470.00	\$2,900.00		\$3,370.00
	Over-speed Valve	1	LS	\$4,000.00	\$10,000.00		\$14,000.00
	Miscellaneous	1	LS	\$5,200.00	\$11,800.00		\$17,000.00
	Replace Piston for 5-Stop Elevator (incl. Raise & Secure Elevator, Remove Piston, Re-Drill Shaft, Insert New Piston, Recharge w/Hydraulic Fluid and Make final connections)	1	LS	\$90,000.00	\$180,000.00		\$270,000.00
	Subtotal						\$367,370



**Department of
Design and
Construction**

CONTRACTOR'S BID BREAKDOWN FORM

CONTRACT 1 - GENERAL CONSTRUCTION

Project: Flushing Town Hall Elevator Modernization
Location: 137-35 Northern Boulevard, Flushing, NY 11355
Bidder: Jobco Incorporated

DDC ID: PV040ELEV
Sponsor Agency: DCLA

CSI Number	Description	Quantity	Unit	Total Cost of Material	Total Cost of Labor	Total Cost of Equipment	Total Cost: Materials, Labor and Equipment
22 0000	PLUMBING						
22 0513	COMMON MOTOR REQUIREMENTS FOR PLUMBING EQUIPMENT						
	Sump Pump in Existing Pit (1-1/2 HP, 1-1/2 Discharge), Modifying Existing Metal Grate for New Piping	1	EA	\$7,500	\$12,500.00		\$20,000.00
	Subtotal						\$20,000
22 0517	SLEEVES AND SLEEVE SEALS FOR PLUMBING						
	Wall Sleeve	2	EA	\$500	\$1,500.00		\$2,000.00
	Subtotal						\$2,000
22 0523.14	CHECK VALVES FOR PLUMBING PIPING						
	Check Valve	2	EA	\$800	\$1,200.00		\$2,000.00
	Subtotal						\$2,000
22 0523.15	GATE VALVES FOR PLUMBING PIPING (included w/ 220513)						
22 0529	HANGERS & SUPPORTS FOR PLUMBING PIPING AND EQUIPMENT						
	1-1/2" Discharge Pipe	60	LF	\$1,800	\$4,200.00		\$6,000.00
	Subtotal						\$6,000
22 0548.13	HANGERS & SUPPORTS FOR PLUMBING PIPING AND EQUIPMENT (included w/ 220529)						



**Department of
Design and
Construction**

CONTRACTOR'S BID BREAKDOWN FORM

CONTRACT 1 - GENERAL CONSTRUCTION

Project: Flushing Town Hall Elevator Modernization
Location: 137-35 Northern Boulevard, Flushing, NY 11355
Bidder: Jobco Incorporated

DDC ID: PV040ELEV
Sponsor Agency: DCLA

CSI Number	Description	Quantity	Unit	Total Cost of Material	Total Cost of Labor	Total Cost of Equipment	Total Cost: Materials, Labor and Equipment
22 0553	IDENTIFICATION FOR PLUMBING PIPING AND EQUIPMENT (included w/ 220529)						
22 1423	STORM DRAINAGE PIPING SPECIALTIES (included w/ 220529)						
22 1429	SUMP PUMPS (included w/ 220513)						
23 0000	HEATING, VENTILATION AND AIR CONDITIONING (HVAC)						
23 0513	COMMON MOTOR REQUIREMENTS FOR HVAC EQUIPMENT						
	Remove Existing Through Wall Air Conditioners, provide PTAC	1	EA	\$12,000	\$20,000.00		\$32,000.00
	Subtotal						\$32,000
23 0593	TESTING, ADJUSTING, AND BALANCING FOR HVAC (included w/ 230513)						
23 3113	METAL DUCTS						
	6" x 6" Permanently Open Outside Air Ventilation Duct w/ Wire Screen Mesh	1	LS	\$2,000.00	\$3,000.00		\$5,000.00
	Subtotal						\$5,000
23 3300	AIR DUCT ACCESSORIES						
	Backdraft Damper Motorized Activated with Thermostat	1	EA	\$1,500.00	\$3,000.00		\$4,500.00



**Department of
Design and
Construction**

CONTRACTOR'S BID BREAKDOWN FORM

CONTRACT 1 - GENERAL CONSTRUCTION

Project: Flushing Town Hall Elevator Modernization
Location: 137-35 Northern Boulevard, Flushing, NY 11355
Bidder: Jobco Incorporated

DDC ID: PV040ELEV
Sponsor Agency: DCLA

CSI Number	Description	Quantity	Unit	Total Cost of Material	Total Cost of Labor	Total Cost of Equipment	Total Cost: Materials, Labor and Equipment
	Subtotal						\$4,500
23 3423	HVAC POWER VENTILATORS						
	Exhaust Fan, Wall Mounted 1125 CFM, w/ Neoprene Vibration Pads	1	EA	\$1,500.00	\$3,500.00		\$5,000.00
	Subtotal						\$5,000
23 8113.11	AIR CONDITIONERS, THROUGH-WALL UNITS (included w/ 230513)						
26 0000	ELECTRICAL						
26 0500	COMMON WORK RESULTS FOR ELECTRICAL						
	Drawings, As Builts, Coordination	1	LS	\$2,500	\$2,500.00		\$5,000.00
	Subtotal						\$5,000
26 0501	BASIC ELECTRICAL MATERIAL AND METHODS						
	Exhaust Fan Circuitry	35	LS	\$1,500	\$5,600.00		\$7,100.00
	Remove & Replace 120V Receptacle w/ GFCI Receptacle	2	EA	\$150.00	\$200.00		\$350.00
	Emergency Circuit Re-Wiring	200	LS	\$16,000.00	\$14,000.00		\$30,000.00
	Subtotal						\$37,450
26 0519	BASIC ELECTRICAL MATERIAL AND METHODS						
	Emergency Battery to Lower Elevator & Open Door	1	LS	\$1,500	\$1,600.00		\$3,100.00
	Subtotal						\$3,100



**Department of
Design and
Construction**

CONTRACTOR'S BID BREAKDOWN FORM

CONTRACT 1 - GENERAL CONSTRUCTION

Project: Flushing Town Hall Elevator Modernization
Location: 137-35 Northern Boulevard, Flushing, NY 11355
Bidder: Jobco Incorporated

DDC ID: PV040ELEV
Sponsor Agency: DCLA

CSI Number	Description	Quantity	Unit	Total Cost of Material	Total Cost of Labor	Total Cost of Equipment	Total Cost: Materials, Labor and Equipment
26 0526	GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS (included w/ 260501)						
26 0533	RACEWAY AND BOXES FOR ELECTRICAL SYSTEMS (included w/ 260501)						
26 0553	IDENTIFICATION FOR ELECTRICAL SYSTEMS (included w/ 260501)						
26 2416	PANELBOARDS						
	Elevator Recall Panel, Connect to Exist	1	EA	\$2,000	\$4,000.00		\$6,000.00
	Subtotal						\$6,000
26 2813	FUSES (included w/ 262816)						
26 2816	ENCLOSED SWITCHES AND CIRCUIT BREAKERS						
	Fusible, Lockable Disconnect Switch for Lighting	6	EA	\$1,800	\$2,600.00		\$4,400.00
	Subtotal						\$4,400
28 0000	ELECTRICAL						
28 3111	ADDRESSABLE FIRE- ALARM SYSTEM						



**Department of
Design and
Construction**

CONTRACTOR'S BID BREAKDOWN FORM

CONTRACT 1 - GENERAL CONSTRUCTION

Project: Flushing Town Hall Elevator Modernization
Location: 137-35 Northern Boulevard, Flushing, NY 11355
Bidder: Jobco Incorporated

DDC ID: PV040ELEV
Sponsor Agency: DCLA

CSI Number	Description	Quantity	Unit	Total Cost of Material	Total Cost of Labor	Total Cost of Equipment	Total Cost: Materials, Labor and Equipment
	Testing & Coordination w/Building System Vendor	1	LS	\$2,500	\$4,500.00		\$7,000.00
	Replace Fire Alarm Devices	1	LS	\$1,500.00	\$2,500.00		\$4,000.00
	Subtotal						\$11,000
	Asbestos Allowance			\$5,000.00	\$10,000.00		\$15,000
	TOTAL CONTRACT 1 - GENERAL CONSTRUCTION WORK						\$911,000.00

BID SUBMISSION FORM

Bidder Name: Jobco Incorporated
Procurement Title: 85022B0079-PV040ELEV Flushing Town Hall
Elevator Modernization
RFx Name: 85022B0079-PV040ELEV Flushing Town Hall
Elevator Modernization

The above-named bidder affirms and declares:

1. The bidder has completed and submitted all required information for the above procurement in the PASSPort system;
2. Any discrepancy between the bid price listed on this Bid Submission Form and the bid information submitted in PASSPort may result in the agency finding the bid non-responsive; and
3. This bid is being submitted in accordance with New York State General Municipal Law § 103.

Lump Sum Bid Amount
(Bid Price Item Grid) \$ 896,000
+ All Allowances
(Allowances Item Grid) \$ 15,000.00

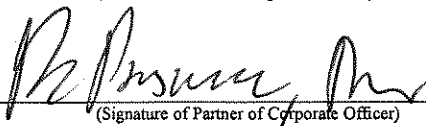
= Total Bid Price:
(a/k/a Total Amount) \$ 911,000

Bidder Signature

EIN (if applicable): 11-1734293
(EIN must match the EIN of the entity that submitted bid information in PASSPort)

Bidder Name: Jobco Incorporated

By: Robert M. Pascucci
(Name of Partner or Corporate Officer)

Signature: 
(Signature of Partner or Corporate Officer)

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)
Great Neck Library 26 Great Neck Road Great Neck, NY 11021	GC- Interior Renovation	\$426,000.00	October 2022	Denise Corcoran Director 516-466-8055	Elisabeth Martin MDA Design Group 212-627-7788
Kings Bay YM-YWHA - DASNY 3495 Nostrand Avenue Brooklyn NY 11229	GC-Roof Replacement gas generator, interior work	\$1,433,000.00	June 2021	Noberto Dolores Project Manager 917-417-1467	Kelly E. Greenfield H2M Architects and Engineers 646-518-6300
478-480 Central Park West New York NY 10025	GC- Interior renovations	\$4,000,000.00	December 2020	Neeraj Sharma 212-977-0000 x 227	Fernando Papale 212-710-0500
HRA Bronx DDC 1138 Longfellow Ave 1275 Westchester Ave	Facade restorations roof replacement interior work	\$3,376,000.00	May 2019	Robin Gordon Project Manager 347-242-9495	Nelligan White Architects 212-675-0500
HRA Brooklyn DDC 970 Dekalb Ave 217 Hart Street Brooklyn NY, 1122	Facade restorations	\$3,878,000.00	December 2018	Robin Gordon Project Manager 347-242-9495	Nelligan White Architects 212-675-0500
Downtown Art DDC 70 East 4th Street New York NY 10003	Gut Rehabilitation	\$2,848,000.00	May 2016	Antoine Hitti 646-235-3407	Charles Rose Architects Inc. 617-628-5033

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)
Downtown Art Phase 2 DDC 70 East 4th Street New York NY 10003	Rehabilitation	\$1,433,000.00	\$600,000.00	\$1,120,000.00	October 2023	Antoine Hitti 646-235-3407	DDC In House. Design Studio
Choircirciati Cultural Center 64 East 4th Street	Facade Renovation and Expansion	\$2,143,000	\$1,000,000.00	\$1,570,000.00	December 2023	Antoine Hitt 646-235-3407	Rice + Lipka Architects 212-285-1003
BCC Snow Hall 135 Hall of Fame Terrace Bronx NY 10453	New Elevator	\$911,000.00	\$300,000.00	\$859,000.00	October 2023	Samir Rimawi 718-933-9535 917-295-5291	Cutis + Ginsberg Architect LLP 212-929-4417
523-531 Middle Neck Road Great Neck, NY 11023	New Construction	\$6,439,500.00	\$3,600 000.00	\$1,763,003.00	December 2022	Silver Lake Reality Group Steven Kuo 917-815-3100	Raymond Chan 718-445-2345

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)

Jobco Incorporated

277 Northern Boulevard
Great Neck, New York 11021

Telephone: (516) 487-0050
Facsimile: (516) 487-0014

June 23, 2022

Re: ID# PV040ELE
PIN# 85022B0079
Flushing Town Hall Elevator Modernization

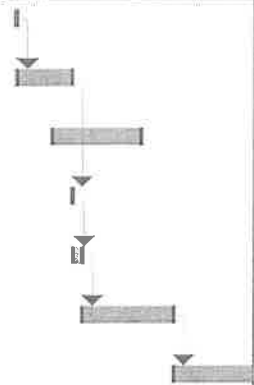
Project Specific Information

- 1) Jobco Incorporated has achieved vast experience in construction since 1950. Jobco provides a complete range of realty development and construction services for government projects, public, and private developers, and property managers. We have worked on the following:
 - A) Public Works Projects
 - B) Schools
 - C) Historic/Landmark Rehabilitation
 - D) Multi-Family and Senior-Citizen Housing
 - E) Condominiums
 - F) Commercial Complexes
 - G) Office Buildings
- 2) Resumes of Key Personnel to be involved in project (please see attached)
 - Robert M. Pascucci – President
 - Spiros Triantafyllou – Project Manager
 - Ricardo Mejia – Site Super
 - July Gonzalez – Assistant Project Manager
 - Egzona Kelmendi – Assistant Project Manager
- 3) Significant pieces of equipment expected to be used for contract
 - There are no significant pieces of equipment expected for this project
- 4) Description of work expected to be subcontracted, and to what firm
 - Maccarone Plumbing, Inc. – Plumbing work
 - Dynaire Corporation – Metal duct, diffusers/grills, control wiring

- Discover Electric – Electrical work and wiring
- 5) Key Material Suppliers
 - Marjam
 - Allied Building Products Corp.
 - 6) Preliminary bar chart time schedule
 - 7) We are capable of financing at least 2 months billing or as needed with our own corporate equity and line of credit.
 - 8) We do not see any issues impacting our ability to complete the project according to the contract.

Jobco Incorporated

ID	Task Name	Duration	Start	Finish	Predecessors	1, 2022 Feb	Qtr 2, 2022 Mar	Qtr 3, 2022 Apr	Qtr 4, 2022 May	Qtr 1, 2023 Jun	Qtr 2, 2023 Jul	Qtr 3, 2023 Aug	Qtr 4, 2023 Sep	Qtr 1, 2024 Oct	Qtr 2, 2024 Nov	Qtr 3, 2024 Dec	Qtr 4, 2024 Jan	Qtr 1, 2025 Feb
1	Notice to Proceed	1 day	Mon 9/5/22	Mon 9/5/22														
2	Mobilization	30 days	Tue 9/6/22	Mon 10/17/22	1													
3	Submittals / Shop Drawings	50 days	Mon 10/3/22	Fri 12/9/22														
4	Permit	1 day	Tue 10/18/22	Tue 10/18/22	2													
5	Temporary protection	5 days	Wed 10/19/22	Tue 10/25/22	4													
6	Demolition	50 days	Wed 10/26/22	Tue 1/3/23	5													
7	Replacement of elevator	140 days	Wed 1/4/23	Tue 7/18/23	6													
8	Electrical work	60 days	Mon 4/17/23	Fri 7/7/23														
9	Sump pump work	60 days	Mon 4/10/23	Fri 6/30/23														
10	HVAC	60 days	Mon 4/24/23	Fri 7/14/23														
11	Inspections	25 days	Mon 7/17/23	Fri 8/18/23	10													
12	Punch list	10 days	Mon 8/21/23	Fri 9/1/23	11													
13	Sign off	1 day	Mon 9/4/23	Mon 9/4/23	12													



Project: Flushing Town Hall
Elevator Modernization
Date: 6/23/2022

Task		Manual Summary Rollup	
Split		Manual Summary	
Milestone		Start-only	
Summary		Finish-only	
Project Summary		External Tasks	
Inactive Task		External Milestone	
Inactive Milestone		Deadline	
Inactive Summary		Progress	
Manual Task		Manual Progress	
Duration-only			

Part 1: M/WBE Participation Goals

Contract Overview (To be completed by contracting agency)

APT E-Pin# 85022B0079 FMS Project ID# PV040ELEV
 Project Title Flushing Town Hall Elevator Modernization Agency PIN# 85022B0079-PV040ELEV
 Contracting Agency NYC DDC Bid/Proposal Response Date 6/4/2021
 Agency Address 30-30 Thomson Ave City Long Island City State NY ZIP 11101
 Contact Person Brandon A. Milliner Sr. Title Design-Build M/WBE Compliance Analyst
 Telephone 718-391-1416 Email Millinebr@ddc.nyc.gov

Project Description (attach additional pages if necessary)

This project consists of the replacement of the elevator controller, replacement of walls, ceiling, and lights of the cabin interior, upgrade of the air condition system in the elevator room, installation of a pit sump pump, installation of new elevator hoist beam. revision and replacement of fire alarm.

Bidder or proposer ☐ is required OR ☐ is not required to specifically identify the contact information of all M/WBE firms they intend to use as a subcontractor on this contract, including the M/WBE vendor name, address and telephone number in the space provided below in Part 2 Section 4.

M/WBE Participation Goals for Services

Enter the percentage amount for each category or for an unspecified Goal.

Prime Contract Industry: Construction

Category and Breakdown:

Unspecified _____ %
 Black American 5.00 %
 Hispanic American 5.00 %
 Asian American _____ %
 Women _____ %

Total Participation Goals 10.00 %
 Line 1

Part 2: M/WBE Participation Plan

(To be completed by the bidder/proposer unless granted a full waiver, which must be submitted with the bid/proposal in lieu of this form)

Section 1: Prime Contractor Contact Information

Tax ID# 11-11734293 FMS Vendor ID# 0000460709
 Business Name Jobco Incorporated Contact Person Spiros Triantafyllou
 Business Address 277 Northern Blvd City Great Neck State NY ZIP 11021
 Telephone 516-487-0050 Email Striantafyllou@jobco.com

Section 3: Contractor M/WBE Utilization Plan

Please review the Notice to Prospective Contractors for more information on how to obtain credit for M/WBE participation. Check applicable box. The Proposer or Bidder will fulfill the M/WBE Participation Goals:

- ☐ As an M/WBE Prime Contractor that will self-perform and/or subcontract to other M/WBE firms a portion of the contract the value of which is at least the amount located on Lines 2 or 3 in the panels in Section 2, as applicable. The value of any work subcontracted to non-M/WBE firms will not be credited towards fulfillment of M/WBE Participation Goals. Please check all that apply to Prime Contractor: ☐ MBE ☐ WBE
- ☐ As a Qualified Joint Venture with an M/WBE partner, in which the value of the M/WBE partner's participation and/or the value of any work subcontracted to other M/WBE firms is at least the amount located on Lines 2 or 3 in the panels in Section 2, as applicable. The value of any work subcontracted to non-M/WBE firms will not be credited towards fulfillment of M/WBE Participation Goals.
- ☒ As a non-M/WBE Prime Contractor that will enter into subcontracts with M/WBE firms the value of which is at least the amount located on Lines 2 or 3 in the panels in Section 2, as applicable.

Section 2: M/WBE Utilization Goal Calculation

Prime Contractor Adopting Agency Participation Goals

For Prime Contractors (including Qualified Joint Ventures and M/WBE firms) adopting Agency M/WBE Participation Goals.

Total Bid/Proposal Value \$ 911,000.00
 multiplied by x
 Total Participation Goals 10.00 %
 (Line 1 above)

Calculated M/WBE Participation Amount \$ 91,100.00
 Line 2

OR

Prime Contractor With Partial Waiver Approval Adopting Revised Participation Goals

For Prime Contractors (including Qualified Joint Ventures and M/WBE firms) adopting Revised M/WBE Participation Goals.

Total Bid/Proposal Value \$ _____
 multiplied by x
 Total Revised Participation Goals _____ %

Calculated M/WBE Participation Amount \$ _____
 Line 3

Section 4: General Contract Information

What is the expected percentage of the total contract dollar value that you expect to award in subcontracts for services, regardless of M/WBE status?

19.00 %

Enter a brief description of the type(s) and dollar value of subcontracts for all services you plan to subcontract if awarded this contract, along with the anticipated start and end dates for such subcontracts. For each item, indicate whether the work is designated for participation by an M/WBE. Where the contracting agency's solicitation has indicated a requirement that the bidder or proposer specifically identify the contact information of all M/WBEs they intend to use on this contract, vendors must also include the M/WBE vendor name, address and telephone number in the space provided below. Use additional sheets if necessary.

Description of Work	Start Date (MM/YY)	End Date (MM/YY)	Planned \$ Amount	Designated for M/WBE		M/WBE Vendor Name	M/WBE Address	M/WBE Telephone
				Y	N			
1. Mechanical	08 / 22	10 / 22	\$ 28,000.00	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Dynaire Corporation	134 Herricks Rd 134 Herricks Rd Mineola, NY 11501	(516) 248 - 9550
2. Plumbing	10 / 22	11 / 22	\$ 22,000.00	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Maccarone Plumbing Inc.	10 Sea Cliff Ave Glen Cove, NY 11542	(516) 671 - 3232
3. Electrical	11 / 22	01 / 23	\$ 31,090.00	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Discover Electric	154 Roxan Road Rockville Center NY 11570	(516) 302 - 7798
4. Steel and Concrete	08 / 22	08 / 22	\$ 46,000.00	<input checked="" type="checkbox"/>	<input type="checkbox"/>	HHJR Construction Ltd	280 North Main Street Freeport NY 11520	(516) 623 - 9555
5. Demolition	08 / 22	08 / 22	\$ 46,000.00	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Green Island Group	45-7 Knickerbocker Avenue Bohemia, NY 11716	(831) 256 - 5711
6. _____	/	/	\$ _____	<input type="checkbox"/>	<input type="checkbox"/>	_____	_____	() -
7. _____	/	/	\$ _____	<input type="checkbox"/>	<input type="checkbox"/>	_____	_____	() -
8. _____	/	/	\$ _____	<input type="checkbox"/>	<input type="checkbox"/>	_____	_____	() -
9. _____	/	/	\$ _____	<input type="checkbox"/>	<input type="checkbox"/>	_____	_____	() -
10. _____	/	/	\$ _____	<input type="checkbox"/>	<input type="checkbox"/>	_____	_____	() -

Section 5: Vendor Certification and Required Affirmations

I hereby:

1. acknowledge my understanding of the M/WBE participation requirements as set forth herein and the pertinent provisions of Section 6-129 of the Administrative Code of the City of New York ("Section 6-129"), and the rules promulgated thereunder;
2. affirm that the information supplied in support of this 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
5. 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 6/27/22 the participation of certified MBE and/or WBE firms.

Signature



Date 6/27/22

Print Name

Spiros Triantafyllou

Title Project Manager



**Department of
Design and
Construction**

PROJECT ID: PV040ELEV

**THE CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF PUBLIC BUILDINGS**

30-30 THOMSON AVENUE
LONG ISLAND CITY, NEW YORK 11101-3045
TELEPHONE (718) 391-1000
WEBSITE www.nyc.gov/buildnyc

VOLUME 2 OF 3

**INFORMATION FOR BIDDERS
CONTRACT
PERFORMANCE AND PAYMENT BONDS
SCHEDULE OF PREVAILING WAGES
GENERAL CONDITIONS**

FOR FURNISHING ALL LABOR AND MATERIALS
NECESSARY AND REQUIRED FOR THE PROJECT

**Flushing Town Hall - Elevator
Modernization**

LOCATION: 137-35 Northern Boulevard
BOROUGH: Queens, NY 11355
CITY OF NEW YORK

CONTRACT NO. 1 GENERAL CONSTRUCTION

FOR: DCLA

BY: IP Group

Date: March 18, 2022





**Department of
Design and
Construction**

**THE CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF PUBLIC BUILDINGS**

30-30 THOMSON AVENUE
LONG ISLAND CITY, NEW YORK 11101-3045
TELEPHONE (718) 391-1000
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VOLUME 2 OF 3

**INFORMATION FOR BIDDERS
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FOR FURNISHING ALL LABOR AND MATERIALS
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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

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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 it 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, contractor'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 oversight 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 (time 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 a Rider to the March 2017 New York City Standard Construction Contract regarding Non-Compensable Delays and Grounds for Extension has been attached and incorporated in this Invitation for Bid. Other than provisions specifically delineated in the Rider, 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.

CITY OF NEW YORK

STANDARD CONSTRUCTION CONTRACT

March 2017

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CITY OF NEW YORK STANDARD CONSTRUCTION CONTRACT

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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 actually inserted 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 and Proposal 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 by the 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 and design 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**, or his/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 right to 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 14 of 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 with the **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; NOTICES AND 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 Additional Insureds, 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 any appropriate 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 or contributing 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 Method in 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 various operations 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, in the 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 delay in the performance of this **Contract** 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 neither known 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, has not 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 extends the 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 of delay 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 multiple of 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 and no 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 Insured and 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 to do 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 applicable to 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** to the 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., as referred 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** by authorizing 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 expiration of 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 in the 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 to a 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 for that 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: $(.035) \times (\text{HP rating}) \times (\text{Fuel cost/gallon})$. 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: $(.035) \times (\text{HP rating}) \times (\text{Fuel cost/gallon})$. 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** in the 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 A TIME & 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 with respect 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 resolution procedure.

CHAPTER VII: POWERS OF THE RESIDENT ENGINEER, THE ENGINEER OR ARCHITECT 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 by the **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 issue an **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 **Contract** 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 out of 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 with the

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 time². 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 provider has 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 PSLI 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 PSLI 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 PSLI 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 PSLI. In addition, an employer may not interfere with any investigation, proceeding, or hearing pursuant to the PSLI.

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 PSLI. 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 Policies 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 terms of the **Contract** and this Article 35.6 (1) 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 parts of 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 a monthly 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 qualified and 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 repair of 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 applicant for 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, rates of 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 Administrative Code, 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 or she 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 a condition 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 used if 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 performance of 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 44 and 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 intended for 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; or if

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 perform the **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 asserted within 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 for the 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 New York 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 interest in, 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 in assessing 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 to the 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 the person 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 that has 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 to the 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 in a

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 will be 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 of the 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 construction 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 to and 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 assess, 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 action efforts 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 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 strict accordance 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 reasonably have 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 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. 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.

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 **JOB CO INCORPORATED** ("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 **85022B0079-PV040ELEV**.

1. (Bid) - **SUBLIST - SUBCONTRACTOR ID FORM.pdf - Jun 9 2023 4:15PM**
2. (Question answer) - **Breakdown - Flushing Town Hall.pdf - Jun 9 2023 4:15PM**
3. (Question answer) - **Jobco Incorporated EMR Ratings.pdf - Jun 14 2023 3:36PM**
4. (Question answer) - **OSHA 300 & 300A.pdf - Jun 14 2023 3:37PM**
5. (Question answer) - **Qualification form.pdf - Jun 9 2023 4:15PM**
6. **automobile liability - Jun 13 2023 9:41PM**
7. **Bid Breakdown - Jun 14 2023 2:54PM**
8. **Broker's Certification - Jun 14 2023 2:00PM**
9. **DDC PASSPort Bid Information - Jun 9 2023 4:15PM**
10. **disability insurance - Jun 13 2023 9:34PM**
11. **general liability - Jun 13 2023 9:37PM**
12. **Proposal/Bid - Jun 9 2023 4:15PM**
13. **PV040ELEV Planholders List - Jun 9 2023 4:15PM**
14. **PV040ELEV Pre-Bid Conference Sign in Sheet - Jun 9 2023 4:15PM**
15. **PV040ELEV_Addendum 2 - Jun 9 2023 4:15PM**
16. **PV040ELEV_Addendum1 - Jun 9 2023 4:15PM**
17. **PV040ELEV_Addendum3 - Jun 9 2023 4:15PM**
18. **PV040ELEV_Addendum4 - Jun 9 2023 4:15PM**
19. **PV040ELEV_Addendum5 - Jun 9 2023 4:15PM**
20. **PV040ELEV_Addendum6 - Jun 9 2023 4:15PM**
21. **PV040ELEV_Addendum7 - Jun 9 2023 4:15PM**
22. **PV040ELEV_Addendum8 - Jun 9 2023 4:15PM**
23. **PV040ELEV_Bid Drawings_Addendum4 - Jun 9 2023 4:15PM**
24. **PV040ELEV_Volume 2_Addendum1 - Jun 9 2023 4:15PM**
25. **PV040ELEV_Volume 3 - Jun 9 2023 4:15PM**
26. **RFx Document - Jun 9 2023 4:15PM**
27. **Round Addendum Job Aid - Jun 9 2023 4:15PM**
28. **Schedule B - Jun 21 2023 7:04PM**
29. **Schedule B - MWBE Utilization + Waiver Instructions - Jun 9 2023 4:15PM**
30. **Volume 1 - Jun 9 2023 4:15PM**
31. **workers compensation - Jun 13 2023 9:35PM**

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**

Thomas Foley

FE0ABB939FF24B0...

(Signature)

Name: Thomas Foley

Title: Commissioner

Date: 6/27/2023 | 10:28:41 EDT

Contractor

By: **IOBCO INCORPORATED**

DocuSigned by:

Spiros Triantafyllou
82E206632FCF428...

(Signature)

Name: Spiros Triantafyllou

Title: Secretary

Date: 6/27/2023 | 10:27:49 EDT



JOBCINC-01

LINFANTI

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)

6/12/2023

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 rights to the certificate holder in lieu of such endorsement(s).

PRODUCER Vanguard Coverage 101 Sunnyside Blvd Suite 100 Plainview, NY 11803	CONTACT NAME: Lynn Infanti PHONE (A/C, No, Ext): (516) 349-1333 1302 FAX (A/C, No): E-MAIL ADDRESS: certificates@vanguardcoverage.com
	INSURER(S) AFFORDING COVERAGE INSURER A: Southwest Marine & General Insurance Company INSURER B: State Insurance Fund Workers' Compensation Fund INSURER C: INSURER D: INSURER E: INSURER F:
	NAIC # 12294 36102

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 INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
A	<input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input checked="" type="checkbox"/> PROJECT <input type="checkbox"/> LOC OTHER:	X	X	GL202200000242	10/1/2022	10/1/2023	EACH OCCURRENCE \$ 5,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 100,000 MED EXP (Any one person) \$ Excluded PERSONAL & ADV INJURY \$ 2,000,000 GENERAL AGGREGATE \$ 5,000,000 PRODUCTS - COMP/OP AGG \$ 5,000,000 \$
	AUTOMOBILE LIABILITY <input type="checkbox"/> ANY AUTO OWNED AUTOS ONLY <input type="checkbox"/> SCHEDULED AUTOS <input type="checkbox"/> HIRED AUTOS ONLY <input type="checkbox"/> NON-OWNED AUTOS ONLY						COMBINED SINGLE LIMIT (Ea accident) \$ BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$ \$
	UMBRELLA LIAB <input type="checkbox"/> OCCUR EXCESS LIAB <input type="checkbox"/> CLAIMS-MADE DED <input type="checkbox"/> RETENTION \$						EACH OCCURRENCE \$ AGGREGATE \$ \$
B	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) <input type="checkbox"/> Y / N If yes, describe under DESCRIPTION OF OPERATIONS below	N/A	X	Z 2239 873-9	1/1/2023	1/1/2024	<input checked="" type="checkbox"/> PER STATUTE <input type="checkbox"/> 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

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

RE: PV040ELEV Flushing Town Hall Elevator Modernization.

The following are included as additional insureds where required by written contract:

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).

Insurance coverage shall be on a primary and non-contributory basis where required by written contract.

A waiver of subrogation is included in favor of the additional insureds where required by written contract.

CERTIFICATE HOLDER

CANCELLATION

CERTIFICATE HOLDER New York City Department of Design and Construction 30-30 Thomson Avenue New York, NY 10011	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
--	--

CERTIFICATE OF WORKERS' COMPENSATION INSURANCE

***** 111734293
THE FLANDERS GROUP
300 LINDEN OAKS
SUITE 210 - 1ST FLOOR
ROCHESTER NY 14625



SCAN TO VALIDATE
AND SUBSCRIBE

POLICYHOLDER JOBCO INCORPORATED 1983 MARCUS AVENUE - SUITE 137 LAKE SUCCESS NY 11042		CERTIFICATE HOLDER PV040ELEV NYC DEPARTMENT OF DESIGN AND CONSTRUCTION 30-30 THOMSON AVENUE LONG ISLAND CITY NY 10011	
POLICY NUMBER Z2239 873-9	CERTIFICATE NUMBER 412783	POLICY PERIOD 01/01/2023 TO 01/01/2024	DATE 6/12/2023

THIS IS TO CERTIFY THAT THE POLICYHOLDER NAMED ABOVE IS INSURED WITH THE NEW YORK STATE INSURANCE FUND UNDER POLICY NO. 2239 873-9, COVERING THE ENTIRE OBLIGATION OF THIS POLICYHOLDER FOR WORKERS' COMPENSATION UNDER THE NEW YORK WORKERS' COMPENSATION LAW WITH RESPECT TO ALL OPERATIONS IN THE STATE OF NEW YORK, EXCEPT AS INDICATED BELOW.

IF YOU WISH TO RECEIVE NOTIFICATIONS REGARDING SAID POLICY, INCLUDING ANY NOTIFICATION OF CANCELLATIONS, OR TO VALIDATE THIS CERTIFICATE, VISIT OUR WEBSITE AT [HTTPS://WWW.NYSIF.COM/CERT/CERTVAL.ASP](https://www.nysif.com/cert/certval.asp). THE NEW YORK STATE INSURANCE FUND IS NOT LIABLE IN THE EVENT OF FAILURE TO GIVE SUCH NOTIFICATIONS.

THE POLICY INCLUDES A WAIVER OF SUBROGATION ENDORSEMENT UNDER WHICH NYSIF AGREES TO WAIVE ITS RIGHT OF SUBROGATION TO BRING AN ACTION AGAINST THE CERTIFICATE HOLDER TO RECOVER AMOUNTS WE PAID IN WORKERS' COMPENSATION AND/OR MEDICAL BENEFITS TO OR ON BEHALF OF AN EMPLOYEE OF OUR INSURED IN THE EVENT THAT, PRIOR TO THE DATE OF THE ACCIDENT, THE CERTIFICATE HOLDER HAS ENTERED INTO A WRITTEN CONTRACT WITH OUR INSURED THAT REQUIRES THAT SUCH RIGHT OF SUBROGATION BE WAIVED.

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS NOR INSURANCE COVERAGE UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICY.

NEW YORK STATE INSURANCE FUND

DIRECTOR, INSURANCE FUND UNDERWRITING

VALIDATION NUMBER: 570808653



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)

JOBCO INCORPORATED
1983 MARCUS AVENUE, SUITE 137
LAKE SUCCESS, NY 11042

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

1c. Federal Employer Identification Number of Insured or Social Security Number

111734293

2. Name and Address of Entity Requesting Proof of Coverage (Entity Being Listed as the Certificate Holder)

3a. Name of Insurance Carrier

HARTFORD LIFE AND ACCIDENT INSURANCE COMPANY

3b. Policy Number of Entity Listed in Box 1a

LN330952

3c. Policy effective period

01-01-2023 to 12-31-2023

4. Policy provides the following benefits:

- ☒ A. Both disability and Paid Family Leave benefits.
☐ B. Disability benefits only.
☐ C. Paid Family Leave benefits only.

5. Policy covers:

- ☒ 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

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.**



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 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 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.

SCHEDULE A (FOR PUBLICLY BID PROJECTS)

Relating to Article 22 - Insurance

PART III. 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.

Vanguard/Acrisure LLC

[Name of broker or agent (typewritten)]

101 Sunnyside Blvd, Suite 100, Plainview, NY 11803

[Address of broker or agent (typewritten)]

Rburger@acrisurellc.com

[Email address of broker or agent (typewritten)]

516-349-1333

[Phone number/Fax number of broker or agent (typewritten)]

[Signature of authorized official or broker or agent]

Robin Burger, Senior Account Manager

[Name and title of authorized official, broker or agent (typewritten)]

State of New York)
County of Nassau) ss:

Sworn to before me this

14th day of June, 2023

NOTARY PUBLIC FOR THE STATE OF New York

LYNN ANN INFANTI
Notary Public, State of New York
No. 01IN6004351
Qualified in Suffolk County 2026
Commission Expires March 23, 2026

ACORD™ CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)

06/13/23

PRODUCER

GREENBERG-CAPKO ALLSTATE AGENCY
59 S. GREELEY AVENUE SUITE 7
CHAPPAQUA, NEW YORK 10514

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 POLICIES BELOW.

INSURERS AFFORDING COVERAGE

NAIC

INSURED

JOB CO INCORPORATED
277 NORTHERN BLVD
GREAT NECK, NEW YORK 11021

INSURER A: ALLSTATE INSURANCE COMPANY

19323

INSURER B:

INSURER C:

INSURER D:

INSURER E:

COVERAGES

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. AGGREGATE LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR/ADD'L LTR/INSRD	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YY)	POLICY EXPIRATION DATE (MM/DD/YY)	LIMITS	
	GENERAL LIABILITY <input type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS MADE <input checked="" type="checkbox"/> OCCUR <input type="checkbox"/> GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input type="checkbox"/> PRO- JECT <input type="checkbox"/> LOC				EACH OCCURRENCE	\$
					DAMAGE TO RENTED PREMISES (Ea occurrence)	\$
					MED EXP (Any one person)	\$
					PERSONAL & ADV INJURY	\$
					GENERAL AGGREGATE	\$
					PRODUCTS - COMP/OP AGG	\$
B	AUTOMOBILE LIABILITY <input type="checkbox"/> ANY AUTO <input type="checkbox"/> ALL OWNED AUTOS <input type="checkbox"/> SCHEDULED AUTOS <input checked="" type="checkbox"/> HIRED AUTOS <input checked="" type="checkbox"/> NON-OWNED AUTOS <input type="checkbox"/>	048649366	02/04/23	02/04/24	COMBINED SINGLE LIMIT (Ea accident)	\$ 1,000,000
					BODILY INJURY (Per person)	\$
					BODILY INJURY (Per accident)	\$
					PROPERTY DAMAGE (Per accident)	\$
	GARAGE LIABILITY <input type="checkbox"/> ANY AUTO <input type="checkbox"/>				AUTO ONLY - EA ACCIDENT	\$
					OTHER THAN EA ACC	\$
					AUTO ONLY: AGG	\$
	EXCESS/UMBRELLA LIABILITY <input type="checkbox"/> OCCUR <input type="checkbox"/> CLAIMS MADE <input type="checkbox"/> DEDUCTIBLE RETENTION				EACH OCCURRENCE	\$
					AGGREGATE	\$
						\$
						\$
						\$
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? If yes, describe under SPECIAL PROVISIONS below				WC STATU- TORY LIMITS	OTH- ER
					E.L. EACH ACCIDENT	\$
					E.L. DISEASE - EA EMPLOYEE	\$
					E.L. DISEASE - POLICY LIMIT	\$
	OTHER					

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES / EXCLUSIONS ADDED BY ENDORSEMENT / SPECIAL PROVISIONS

RE: PV040ELEV Flushing Town Hall Elevator Modernization. The following are included as additional insureds where required by written contract: 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). Insurance coverage shall be on a primary and non-contributory basis where required by written contract. A waiver of subrogation is included in favor of the additional insureds where required by written contract.

CERTIFICATE HOLDER

New York City Department of Design and Construction
30-30 Thomson Avenue
New York, NY 10011

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING INSURER WILL ENDEAVOR TO MAIL 30 DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT, BUT FAILURE TO DO SO SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE INSURER, ITS AGENTS OR REPRESENTATIVES.

AUTHORIZED REPRESENTATIVE

Maronda McKinney

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.

ADDENDUM

List of Amended Classifications

1. BOILERMAKER
2. HAZARDOUS MATERIAL HANDLER
3. HOUSE WRECKER
4. IRON WORKER - ORNAMENTAL
5. IRON WORKER - STRUCTURAL
6. MASON TENDER
7. PAINTER - LINE STRIPING (ROADWAY)
8. PLASTERER - TENDER
9. ROOFER
10. SHEET METAL WORKER
11. SIGN ERECTOR
12. STEAMFITTER - REFRIGERATION & AIR CONDITIONER

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION APPRENTICE PREVAILING WAGE SCHEDULE

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OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION APPRENTICE PREVAILING WAGE SCHEDULE

BOILERMAKER

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 3)

Boilermaker (First Year)

Effective Period: 7/1/2021 - 1/30/2022

Wage Rate Per Hour: 65% of Journeyperson's rate

Supplemental Benefit Rate Per Hour: \$33.12

Effective Period: 1/31/2022 - 6/30/2022

Wage Rate Per Hour: 65% of Journeyperson's rate

Supplemental Benefit Rate Per Hour: \$33.57

Boilermaker (Second Year: 1st Six Months)

Effective Period: 7/1/2021 - 1/30/2022

Wage Rate Per Hour: 70% of Journeyperson's rate

Supplemental Benefit Rate Per Hour: \$35.05

Effective Period: 1/31/2022 - 6/30/2022

Wage Rate Per Hour: 70% of Journeyperson's rate

Supplemental Benefit Rate Per Hour: \$35.54

Boilermaker (Second Year: 2nd Six Months)

Effective Period: 7/1/2021 - 1/30/2022

Wage Rate Per Hour: 75% of Journeyperson's rate

Supplemental Benefit Rate Per Hour: \$37.01

Effective Period: 1/31/2022 - 6/30/2022

Wage Rate Per Hour: 75% of Journeyperson's rate

Supplemental Benefit Rate Per Hour: \$37.51

Boilermaker (Third Year: 1st Six Months)

Effective Period: 7/1/2021 - 1/30/2022

Wage Rate Per Hour: 80% of Journeyperson's rate

Supplemental Benefit Rate Per Hour: \$38.92

Effective Period: 1/31/2022 - 6/30/2022

Wage Rate Per Hour: 80% of Journeyperson's rate

Supplemental Benefit Rate Per Hour: \$39.48

Boilermaker (Third Year: 2nd Six Months)

Effective Period: 7/1/2021 - 1/30/2022

Wage Rate Per Hour: 85% of Journeyperson's rate

Supplemental Benefit Rate Per Hour: \$40.87

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION APPRENTICE PREVAILING WAGE SCHEDULE

Effective Period: 1/31/2022 - 6/30/2022
Wage Rate Per Hour: 85% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: \$41.45

Boilermaker (Fourth Year: 1st Six Months)

Effective Period: 7/1/2021 - 1/30/2022
Wage Rate Per Hour: 90% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: \$42.82

Effective Period: 1/31/2022 - 6/30/2022
Wage Rate Per Hour: 90% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: \$43.42

Boilermaker (Fourth Year: 2nd Six Months)

Effective Period: 7/1/2021 - 1/30/2022
Wage Rate Per Hour: 95% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: \$44.74

Effective Period: 1/31/2022 - 6/30/2022
Wage Rate Per Hour: 95% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: \$45.39

(Local #5)

BRICKLAYER

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 4)

Bricklayer (First 750 Hours)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate Per Hour: 50% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: \$22.95

Bricklayer (Second 750 Hours)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate Per Hour: 60% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: \$22.95

Bricklayer (Third 750 Hours)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate Per Hour: 70% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: \$22.95

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION APPRENTICE PREVAILING WAGE SCHEDULE

Bricklayer (Fourth 750 Hours)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate Per Hour: 80% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: \$22.95

Bricklayer (Fifth 750 Hours)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate Per Hour: 90% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: \$22.95

Bricklayer (Sixth 750 Hours)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate Per Hour: 95% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: \$22.95

(Bricklayer District Council)

CARPENTER

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 4)

Carpenter (First Year)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate Per Hour For Building Apprentice: \$19.55
Supplemental Benefit Rate Per Hour For Building Apprentice: \$16.35

Wage Rate Per Hour For Heavy Apprentice: \$23.37
Supplemental Benefit Rate Per Hour For Heavy Apprentice: \$35.49

Carpenter (Second Year)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate Per Hour For Building Apprentice: \$22.55
Supplemental Benefit Rate Per Hour For Building Apprentice: \$17.85

Wage Rate Per Hour For Heavy Apprentice: \$28.97
Supplemental Benefit Rate Per Hour For Heavy Apprentice: \$35.49

Carpenter (Third Year)

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION APPRENTICE PREVAILING WAGE SCHEDULE

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate Per Hour For Building Apprentice: \$26.80

Supplemental Benefit Rate Per Hour For Building Apprentice: \$21.45

Wage Rate Per Hour For Heavy Apprentice: \$37.35

Supplemental Benefit Rate Per Hour For Heavy Apprentice: \$35.49

Carpenter (Fourth Year)

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate Per Hour For Building Apprentice: \$34.68

Supplemental Benefit Rate Per Hour For Building Apprentice: \$23.45

Wage Rate Per Hour For Heavy Apprentice: \$45.74

Supplemental Benefit Rate Per Hour For Heavy Apprentice: \$35.49

(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: 7/1/2021 - 6/30/2022

Wage Rate per Hour: \$18.27

Supplemental Benefit Rate per Hour: \$16.55

Carpenter - High Rise (Second Year)

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: \$24.70

Supplemental Benefit Rate per Hour: \$16.73

Carpenter - High Rise (Third Year)

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: \$31.28

Supplemental Benefit Rate per Hour: \$16.95

Carpenter - High Rise (Fourth Year)

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: \$38.90

Supplemental Benefit Rate per Hour: \$17.20

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION APPRENTICE PREVAILING WAGE SCHEDULE

(Carpenters District Council)

CEMENT AND CONCRETE WORKER
(Ratio of Apprentice to Journeyman: 1 to 1, 1 to 3)

Cement & Concrete Worker (First 1333 hours)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate Per Hour: 53% of Journeyman's rate
Supplemental Benefit Rate Per Hour: \$14.79

Cement & Concrete Worker (Second 1333 hours)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate Per Hour: 69% of Journeyman's rate
Supplemental Benefit Rate Per Hour: \$19.72

Cement & Concrete Worker (Last 1334 hours)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate Per Hour: 85% of Journeyman's rate
Supplemental Benefit Rate Per Hour: \$21.30

(Cement Concrete Workers District Council)

CEMENT MASON
(Ratio of Apprentice to Journeyman: 1 to 1, 1 to 4)

Cement Mason (First Year)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: \$19.57
Supplemental Benefit Rate per Hour: \$15.61

Cement Mason (Second Year)

Effective Period: 7/1/2021 - 6/30/2022

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CONSTRUCTION APPRENTICE PREVAILING WAGE SCHEDULE

Wage Rate per Hour: **\$24.40**

Supplemental Benefit Rate per Hour: **\$15.91**

Cement Mason (Third Year)

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$29.68**

Supplemental Benefit Rate per Hour: **\$16.02**

(Local #780)

DERRICKPERSON & RIGGER (STONE)
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 4)

Derrickperson & Rigger (stone) - First Year

Effective Period: 7/1/2021 - 6/30/2022

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: 7/1/2021 - 6/30/2022

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: 7/1/2021 - 6/30/2022

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: 7/1/2021 - 6/30/2022

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: 7/1/2021 - 6/30/2022

Wage Rate Per Hour: \$23.37

Supplemental Benefit Rate Per Hour: \$35.49

Dockbuilder/Pile Driver (Second Year)

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate Per Hour: \$28.97

Supplemental Benefit Rate Per Hour: \$35.49

Dockbuilder/Pile Driver (Third Year)

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate Per Hour: \$37.35

Supplemental Benefit Rate Per Hour: \$35.49

Dockbuilder/Pile Driver (Fourth Year)

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate Per Hour: \$45.74

Supplemental Benefit Rate Per Hour: \$35.49

(Carpenters District Council)

ELECTRICIAN

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 3)

Electrician (First Term: 0-6 Months)

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: \$17.25

Supplemental Benefit Rate per Hour: \$14.93

Overtime Supplemental Rate Per Hour: \$16.07

Electrician (First Term: 7-12 Months)

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: \$17.75

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CONSTRUCTION APPRENTICE PREVAILING WAGE SCHEDULE

Supplemental Benefit Rate per Hour: **\$15.19**
Overtime Supplemental Rate Per Hour: **\$16.36**

Electrician (Second Term: 0-6 Months)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: **\$18.75**
Supplemental Benefit Rate per Hour: **\$15.70**
Overtime Supplemental Rate Per Hour: **\$16.95**

Electrician (Second Term: 7-12 Months)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: **\$19.75**
Supplemental Benefit Rate per Hour: **\$16.22**
Overtime Supplemental Rate Per Hour: **\$17.53**

Electrician (Third Term: 0-6 Months)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: **\$20.75**
Supplemental Benefit Rate per Hour: **\$16.74**
Overtime Supplemental Rate Per Hour: **\$18.11**

Electrician (Third Term: 7-12 Months)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: **\$21.75**
Supplemental Benefit Rate per Hour: **\$17.26**
Overtime Supplemental Rate Per Hour: **\$18.70**

Electrician (Fourth Term: 0-6 Months)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: **\$22.75**
Supplemental Benefit Rate per Hour: **\$17.77**
Overtime Supplemental Rate Per Hour: **\$19.28**

Electrician (Fourth Term: 7-12 Months)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: **\$24.75**
Supplemental Benefit Rate per Hour: **\$18.81**
Overtime Supplemental Rate Per Hour: **\$20.45**

Electrician (Fifth Term: 0-12 Months)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: **\$26.00**

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CONSTRUCTION APPRENTICE PREVAILING WAGE SCHEDULE

Supplemental Benefit Rate per Hour: **\$22.06**
Overtime Supplemental Rate Per Hour: **\$23.70**

Electrician (Fifth Term: 13-18 Months)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: **\$30.50**
Supplemental Benefit Rate per Hour: **\$24.45**
Overtime Supplemental Rate Per Hour: **\$26.38**

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: 7/1/2021 - 3/16/2022
Wage Rate Per Hour: 50% of Journeyperson's rate
Supplemental Rate Per Hour: **\$32.76**

Effective Period: 3/17/2022 - 6/30/2022
Wage Rate Per Hour: 50% of Journeyperson's rate
Supplemental Rate Per Hour: **\$33.38**

Elevator (Constructor) - Second Year

Effective Period: 7/1/2021 - 3/16/2022
Wage Rate Per Hour: 55% of Journeyperson's rate
Supplemental Rate Per Hour: **\$33.31**

Effective Period: 3/17/2022 - 6/30/2022
Wage Rate Per Hour: 55% of Journeyperson's rate
Supplemental Rate Per Hour: **\$33.96**

Elevator (Constructor) - Third Year

Effective Period: 7/1/2021 - 3/16/2022
Wage Rate Per Hour: 65% of Journeyperson's rate
Supplemental Rate Per Hour: **\$34.42**

Effective Period: 3/17/2022 - 6/30/2022

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CONSTRUCTION APPRENTICE PREVAILING WAGE SCHEDULE

Wage Rate Per Hour: 65% of Journeyperson's rate
Supplemental Rate Per Hour: \$35.10

Elevator (Constructor) - Fourth Year

Effective Period: 7/1/2021 - 3/16/2022
Wage Rate Per Hour: 75% of Journeyperson's rate
Supplemental Rate Per Hour: \$35.52

Effective Period: 3/17/2022 - 6/30/2022
Wage Rate Per Hour: 75% of Journeyperson's rate
Supplemental Rate Per Hour: \$36.24

(Local #1)

ELEVATOR REPAIR & MAINTENANCE
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 2)

Elevator Service/Modernization Mechanic (First Year)

Effective Period: 7/1/2021 - 3/16/2022
Wage Rate Per Hour: 50% of Journeyperson's rate
Supplemental Benefit Per Hour: \$32.71

Effective Period: 3/17/2022 - 6/30/2022
Wage Rate Per Hour: 50% of Journeyperson's rate
Supplemental Benefit Per Hour: \$33.33

Elevator Service/Modernization Mechanic (Second Year)

Effective Period: 7/1/2021 - 3/16/2022
Wage Rate Per Hour: 55% of Journeyperson's rate
Supplemental Benefit Per Hour: \$33.26

Effective Period: 3/17/2022 - 6/30/2022
Wage Rate Per Hour: 55% of Journeyperson's rate
Supplemental Benefit Per Hour: \$33.90

Elevator Service/Modernization Mechanic (Third Year)

Effective Period: 7/1/2021 - 3/16/2022
Wage Rate Per Hour: 65% of Journeyperson's rate
Supplemental Benefit Per Hour: \$34.35

Effective Period: 3/17/2022 - 6/30/2022
Wage Rate Per Hour: 65% of Journeyperson's rate

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CONSTRUCTION APPRENTICE PREVAILING WAGE SCHEDULE

Supplemental Benefit Per Hour: \$35.03

Elevator Service/Modernization Mechanic (Fourth Year)

Effective Period: 7/1/2021 - 3/16/2022

Wage Rate Per Hour: 75% of Journeyperson's rate

Supplemental Benefit Per Hour: \$35.45

Effective Period: 3/17/2022 - 6/30/2022

Wage Rate Per Hour: 75% of Journeyperson's rate

Supplemental Benefit Per Hour: \$36.17

(Local #1)

ENGINEER

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 5)

Engineer - First Year

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: \$25.38

Supplemental Benefit Rate per Hour: \$28.51

Engineer - Second Year

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: \$31.72

Supplemental Benefit Rate per Hour: \$28.51

Engineer - Third Year

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: \$34.89

Supplemental Benefit Rate per Hour: \$28.51

Engineer - Fourth Year

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: \$38.06

Supplemental Benefit Rate per Hour: \$28.51

(Local #15)

ENGINEER - OPERATING

(Ratio of Apprentice to Journeyman: 1 to 1, 1 to 5)

Operating Engineer - First Year

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate Per Hour: 40% of Operating Engineer - Road & Heavy Construction V's Rate

Supplemental Benefit Per Hour: \$24.05

Operating Engineer - Second Year

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate Per Hour: 50% of Operating Engineer - Road & Heavy Construction V's Rate

Supplemental Benefit Per Hour: \$24.05

Operating Engineer - Third Year

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate Per Hour: 60% of Operating Engineer - Road & Heavy Construction V's Rate

Supplemental Benefit Per Hour: \$24.05

(Local #14)

FLOOR COVERER

(Ratio of Apprentice to Journeyman: 1 to 1, 1 to 4)

Floor Coverer (First Year)

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: \$24.55

Supplemental Benefit Rate per Hour: \$16.35

Floor Coverer (Second Year)

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: \$27.55

Supplemental Benefit Rate per Hour: \$17.85

Floor Coverer (Third Year)

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Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$31.80**

Supplemental Benefit Rate per Hour: **\$21.45**

Floor Coverer (Fourth Year)

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$39.68**

Supplemental Benefit Rate per Hour: **\$23.45**

(Carpenters District Council)

GLAZIER

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 3)

Glazier (First Year)

Effective Period: 7/1/2021 - 6/30/2022

Wage and Supplemental Rate Per Hour: 40% of Journeyperson's rate

Glazier (Second Year)

Effective Period: 7/1/2021 - 6/30/2022

Wage and Supplemental Rate Per Hour: 50% of Journeyperson's rate

Glazier (Third Year)

Effective Period: 7/1/2021 - 6/30/2022

Wage and Supplemental Rate Per Hour: 60% of Journeyperson's rate

Glazier (Fourth Year)

Effective Period: 7/1/2021 - 6/30/2022

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: 7/1/2021 - 1/30/2022

Wage Rate Per Hour: 78% of Journeyperson's rate

Supplemental Benefit Rate Per Hour: \$14.25

Effective Period: 1/31/2022 - 6/30/2022

Wage Rate Per Hour: \$20.00 of Journeyperson's rate

Supplemental Benefit Rate Per Hour: \$14.25

Handler (Second 1000 Hours)

Effective Period: 7/1/2021 - 1/30/2022

Wage Rate Per Hour: 80% of Journeyperson's rate

Supplemental Benefit Rate Per Hour: \$14.25

Effective Period: 1/31/2022 - 6/30/2022

Wage Rate Per Hour: \$21.00 of Journeyperson's rate

Supplemental Benefit Rate Per Hour: \$14.25

Handler (Third 1000 Hours)

Effective Period: 7/1/2021 - 1/30/2022

Wage Rate Per Hour: 83% of Journeyperson's rate

Supplemental Benefit Rate Per Hour: \$14.25

Effective Period: 1/31/2022 - 6/30/2022

Wage Rate Per Hour: \$24.00 of Journeyperson's rate

Supplemental Benefit Rate Per Hour: \$14.25

Handler (Fourth 1000 Hours)

Effective Period: 7/1/2021 - 1/30/2022

Wage Rate Per Hour: 89% of Journeyperson's rate

Supplemental Benefit Rate Per Hour: \$14.25

Effective Period: 1/31/2022 - 6/30/2022

Wage Rate Per Hour: \$26.00 of Journeyperson's rate

Supplemental Benefit Rate Per Hour: \$14.25

(Local #78)

HEAT & FROST INSULATOR

(Ratio of Apprentice to Journeyman: 1 to 1, 1 to 3)

Heat & Frost Insulator (First Year)

Effective Period: 7/1/2021 - 6/30/2022

Wage and Supplemental Rate Per Hour: 40% of Journeyman's rate

Heat & Frost Insulator (Second Year)

Effective Period: 7/1/2021 - 6/30/2022

Wage and Supplemental Rate Per Hour: 50% of Journeyman's rate

Heat & Frost Insulator (Third Year)

Effective Period: 7/1/2021 - 6/30/2022

Wage and Supplemental Rate Per Hour: 60% of Journeyman's rate

Heat & Frost Insulator (Fourth Year)

Effective Period: 7/1/2021 - 6/30/2022

Wage and Supplemental Rate Per Hour: 70% of Journeyman's rate

(Local #12)

HOUSE WRECKER

(TOTAL DEMOLITION)

(Ratio of Apprentice to Journeyman: 1 to 1, 1 to 3)

House Wrecker - First Year

Effective Period: 7/1/2021 - 1/30/2022

Wage Rate per Hour: **\$20.20**

Supplemental Benefit Rate per Hour: **\$10.07**

Effective Period: 1/31/2022 - 6/30/2022

Wage Rate per Hour: **\$20.80**

Supplemental Benefit Rate per Hour: **\$10.67**

House Wrecker - Second Year

Effective Period: 7/1/2021 - 1/30/2022

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CONSTRUCTION APPRENTICE PREVAILING WAGE SCHEDULE

Wage Rate per Hour: **\$22.15**
Supplemental Benefit Rate per Hour: **\$10.07**

Effective Period: 1/31/2022 - 6/30/2022
Wage Rate per Hour: **\$22.75**
Supplemental Benefit Rate per Hour: **\$10.67**

House Wrecker - Third Year

Effective Period: 7/1/2021 - 1/30/2022
Wage Rate per Hour: **\$23.65**
Supplemental Benefit Rate per Hour: **\$10.07**

Effective Period: 1/31/2022 - 6/30/2022
Wage Rate per Hour: **\$24.25**
Supplemental Benefit Rate per Hour: **\$10.67**

House Wrecker - Fourth Year

Effective Period: 7/1/2021 - 1/30/2022
Wage Rate per Hour: **\$26.15**
Supplemental Benefit Rate per Hour: **\$10.07**

Effective Period: 1/31/2022 - 6/30/2022
Wage Rate per Hour: **\$26.75**
Supplemental Benefit Rate per Hour: **\$10.67**

(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: 7/1/2021 - 1/30/2022
Wage Rate per Hour: **\$20.63**
Supplemental Benefit Rate per Hour: **\$17.61**

Effective Period: 1/31/2022 - 6/30/2022
Wage Rate per Hour: **\$21.13**
Supplemental Benefit Rate per Hour: **\$17.61**

Iron Worker (Ornamental) - Second Year

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CONSTRUCTION APPRENTICE PREVAILING WAGE SCHEDULE

Effective Period: 7/1/2021 - 1/30/2022

Wage Rate per Hour: **\$24.22**

Supplemental Benefit Rate per Hour: **\$18.86**

Effective Period: 1/31/2022 - 6/30/2022

Wage Rate per Hour: **\$24.77**

Supplemental Benefit Rate per Hour: **\$18.86**

Iron Worker (Ornamental) - Third Year

Effective Period: 7/1/2021 - 1/30/2022

Wage Rate per Hour: **\$27.80**

Supplemental Benefit Rate per Hour: **\$20.12**

Effective Period: 1/31/2022 - 6/30/2022

Wage Rate per Hour: **\$28.40**

Supplemental Benefit Rate per Hour: **\$20.12**

Iron Worker (Ornamental) - Fourth Year

Effective Period: 7/1/2021 - 1/30/2022

Wage Rate per Hour: **\$31.38**

Supplemental Benefit Rate per Hour: **\$21.38**

Effective Period: 1/31/2022 - 6/30/2022

Wage Rate per Hour: **\$32.06**

Supplemental Benefit Rate per Hour: **\$21.38**

(Local #580)

IRON WORKER - STRUCTURAL

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 6)

Iron Worker (Structural) - 1st Six Months

Effective Period: 7/1/2021 - 1/30/2022

Wage Rate per Hour: **\$28.21**

Supplemental Benefit Rate per Hour: **\$57.12**

Effective Period: 1/31/2022 - 6/30/2022

Wage Rate per Hour: **\$28.59**

Supplemental Benefit Rate per Hour: **\$57.87**

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CONSTRUCTION APPRENTICE PREVAILING WAGE SCHEDULE

Iron Worker (Structural) - 7- 18 Months

Effective Period: 7/1/2021 - 1/30/2022

Wage Rate per Hour: **\$28.81**

Supplemental Benefit Rate per Hour: **\$57.12**

Effective Period: 1/31/2022 - 6/30/2022

Wage Rate per Hour: **\$29.19**

Supplemental Benefit Rate per Hour: **\$57.87**

Iron Worker (Structural) - 19 - 36 months

Effective Period: 7/1/2021 - 1/30/2022

Wage Rate per Hour: **\$29.42**

Supplemental Benefit Rate per Hour: **\$57.12**

Effective Period: 1/31/2022 - 6/30/2022

Wage Rate per Hour: **\$29.80**

Supplemental Benefit Rate per Hour: **\$57.87**

(Local #40 and #361)

**LABORER (FOUNDATION, CONCRETE, EXCAVATING, STREET PIPE
LAYER & COMMON)**

(Ratio Apprentice to Journeyperson: 1 to 1, 1 to 3)

**Laborer (Foundation, Concrete, Excavating, Street Pipe Layer & Common) - First
1000 hours**

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate Per Hour: 50% of Journeyperson's rate

Supplemental Rate Per Hour: **\$48.63**

**Laborer (Foundation, Concrete, Excavating, Street Pipe Layer & Common) -
Second 1000 hours**

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate Per Hour: 60% of Journeyperson's rate

Supplemental Rate Per Hour: **\$48.63**

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION APPRENTICE PREVAILING WAGE SCHEDULE

**Laborer (Foundation, Concrete, Excavating, Street Pipe Layer & Common) -
Third 1000 hours**

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate Per Hour: 75% of Journeyperson's rate
Supplemental Rate Per Hour: \$48.63

**Laborer (Foundation, Concrete, Excavating, Street Pipe Layer & Common) -
Fourth 1000 hours**

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate Per Hour: 90% of Journeyperson's rate
Supplemental Rate Per Hour: \$48.63

(Local #731)

MARBLE MECHANICS
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 4)

Cutters & Setters - First 750 Hours

Effective Period: 7/1/2021 - 6/30/2022
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: 7/1/2021 - 6/30/2022
Wage and Supplemental Rate Per Hour: 45% of Journeyperson's rate

Cutters & Setters - Third 750 Hours

Effective Period: 7/1/2021 - 6/30/2022
Wage and Supplemental Rate Per Hour: 50% of Journeyperson's rate

Cutters & Setters - Fourth 750 Hours

Effective Period: 7/1/2021 - 6/30/2022
Wage and Supplemental Rate Per Hour: 55% of Journeyperson's rate

Cutters & Setters - Fifth 750 Hours

Effective Period: 7/1/2021 - 6/30/2022

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION APPRENTICE PREVAILING WAGE SCHEDULE

Wage and Supplemental Rate Per Hour: 60% of Journeyperson's rate

Cutters & Setters - Sixth 750 Hours

Effective Period: 7/1/2021 - 6/30/2022

Wage and Supplemental Rate Per Hour: 65% of Journeyperson's rate

Cutters & Setters - Seventh 750 Hours

Effective Period: 7/1/2021 - 6/30/2022

Wage and Supplemental Rate Per Hour: 70% of Journeyperson's rate

Cutters & Setters - Eighth 750 Hours

Effective Period: 7/1/2021 - 6/30/2022

Wage and Supplemental Rate Per Hour: 75% of Journeyperson's rate

Cutters & Setters - Ninth 750 Hours

Effective Period: 7/1/2021 - 6/30/2022

Wage and Supplemental Rate Per Hour: 85% of Journeyperson's rate

Cutters & Setters - Tenth 750 Hours

Effective Period: 7/1/2021 - 6/30/2022

Wage and Supplemental Rate Per Hour: 95% of Journeyperson's rate

Polishers & Finishers - First 900 Hours

Effective Period: 7/1/2021 - 6/30/2022

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: 7/1/2021 - 6/30/2022

Wage and Supplemental Rate Per Hour: 80% of Journeyperson's rate

Polishers & Finishers - Third 900 Hours

Effective Period: 7/1/2021 - 6/30/2022

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: 7/1/2021 - 1/30/2022

Wage Rate per Hour: **\$20.20**

Supplemental Benefit Rate per Hour: **\$10.07**

Effective Period: 1/31/2022 - 6/30/2022

Wage Rate per Hour: **\$20.95**

Supplemental Benefit Rate per Hour: **\$10.82**

Mason Tender - Second Year

Effective Period: 7/1/2021 - 1/30/2022

Wage Rate per Hour: **\$22.15**

Supplemental Benefit Rate per Hour: **\$10.07**

Effective Period: 1/31/2022 - 6/30/2022

Wage Rate per Hour: **\$22.90**

Supplemental Benefit Rate per Hour: **\$10.82**

Mason Tender - Third Year

Effective Period: 7/1/2021 - 1/30/2022

Wage Rate per Hour: **\$23.65**

Supplemental Benefit Rate per Hour: **\$10.07**

Effective Period: 1/31/2022 - 6/30/2022

Wage Rate per Hour: **\$24.40**

Supplemental Benefit Rate per Hour: **\$10.82**

Mason Tender - Fourth Year

Effective Period: 7/1/2021 - 1/30/2022

Wage Rate per Hour: **\$26.15**

Supplemental Benefit Rate per Hour: **\$10.07**

Effective Period: 1/31/2022 - 6/30/2022

Wage Rate per Hour: **\$26.90**

Supplemental Benefit Rate per Hour: **\$10.82**

(Local #79)

METALLIC LATHER

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 3)

Metallic Lather (First Year)

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$21.00**

Supplemental Benefit Rate per Hour: **\$17.87**

Metallic Lather (Second Year)

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$22.00**

Supplemental Benefit Rate per Hour: **\$16.87**

Metallic Lather (Third Year)

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$33.10**

Supplemental Benefit Rate per Hour: **\$21.32**

Metallic Lather (Fourth Year)

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$35.60**

Supplemental Benefit Rate per Hour: **\$21.82**

(Local #46)

MILLWRIGHT

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 4)

Millwright (First Year)

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$30.74**

Supplemental Benefit Rate per Hour: **\$35.19**

Millwright (Second Year)

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION APPRENTICE PREVAILING WAGE SCHEDULE

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$36.19**

Supplemental Benefit Rate per Hour: **\$38.89**

Millwright (Third Year)

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$41.64**

Supplemental Benefit Rate per Hour: **\$43.24**

Millwright (Fourth Year)

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$52.54**

Supplemental Benefit Rate per Hour: **\$50.00**

(Local #740)

PAINTER

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 3)

Painter - Brush & Roller - First Year

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$17.20**

Supplemental Benefit Rate per Hour: **\$16.67**

Painter - Brush & Roller - Second Year

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$21.50**

Supplemental Benefit Rate per Hour: **\$21.44**

Painter - Brush & Roller - Third Year

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$25.80**

Supplemental Benefit Rate per Hour: **\$25.27**

Painter - Brush & Roller - Fourth Year

Effective Period: 7/1/2021 - 6/30/2022

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION APPRENTICE PREVAILING WAGE SCHEDULE

Wage Rate per Hour: **\$34.40**

Supplemental Benefit Rate per Hour: **\$32.51**

(District Council of Painters)

PAINTER - LINE STRIPING (ROADWAY)
(Ratio of Apprentice to Journeyman: 1 to 1, 1 to 3)

Painter - Line Striping (Roadway) - First Year (Minimum 1000 hours)

Effective Period: 1/31/2022 - 6/30/2022

Wage Rate per Hour: **\$29.86**

Supplemental Benefit Rate per Hour: **\$14.37**

Painter - Line Striping (Roadway) - Second Year (Minimum 1000 hours)

Effective Period: 1/31/2022 - 6/30/2022

Wage Rate per Hour: **\$31.50**

Supplemental Benefit Rate per Hour: **\$14.37**

(Local #1010)

PAINTER - METAL POLISHER
(Ratio of Apprentice to Journeyman: 1 to 1, 1 to 3)

Metal Polisher (First Year)

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$16.00**

Supplemental Benefit Rate per Hour: **\$7.36**

New Construction - Wage Rate Per Hour: **\$16.39**

Scaffold Over 34 Feet - Wage Rate Per Hour: **\$18.50**

Metal Polisher (Second Year)

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$17.00**

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION APPRENTICE PREVAILING WAGE SCHEDULE

Supplemental Benefit Rate per Hour: **\$7.36**
New Construction - Wage Rate Per Hour: **\$17.44**
Scaffold Over 34 Feet - Wage Rate Per Hour: **\$19.50**

Metal Polisher (Third Year)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: **\$18.00**
Supplemental Benefit Rate per Hour: **\$7.36**
New Construction - Wage Rate Per Hour: **\$18.54**
Scaffold Over 34 Feet - Wage Rate Per Hour: **\$20.50**

(Local 8A-28)

PAINTER - STRUCTURAL STEEL
(Ratio of Apprentice to Journeyman: 1 to 1, 1 to 3)

Painters - Structural Steel (First Year)

Effective Period: 7/1/2021 - 6/30/2022
Wage and Supplemental Rate Per Hour: 40% of Journeyman's rate

Painters - Structural Steel (Second Year)

Effective Period: 7/1/2021 - 6/30/2022
Wage and Supplemental Rate Per Hour: 60% of Journeyman's rate

Painters - Structural Steel (Third Year)

Effective Period: 7/1/2021 - 6/30/2022
Wage and Supplemental Rate Per Hour: 80% of Journeyman's rate

(Local #806)

PAVER AND ROADBUILDER
(Ratio of Apprentice to Journeyman: 1 to 1, 1 to 3)

Paver and Roadbuilder - First Year (Minimum 1000 hours)

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION APPRENTICE PREVAILING WAGE SCHEDULE

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$29.86**

Supplemental Benefit Rate per Hour: **\$23.55**

Paver and Roadbuilder - Second Year (Minimum 1000 hours)

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$31.50**

Supplemental Benefit Rate per Hour: **\$23.55**

(Local #1010)

PLASTERER

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 3)

(Each Term is 800 Hours.)

Plasterer - First Term

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate Per Hour: 55% of Journeyperson's rate

Supplemental Rate Per Hour: **\$17.48**

Plasterer - Second Term

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate Per Hour: 60% of Journeyperson's rate

Supplemental Rate Per Hour: **\$18.63**

Plasterer - Third Term

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate Per Hour: 70% of Journeyperson's rate

Supplemental Rate Per Hour: **\$20.93**

Plasterer - Fourth Term

Effective Period: 7/1/2021 - 6/30/2022

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: 7/1/2021 - 1/30/2022

Wage Rate per Hour: **\$20.20**

Supplemental Benefit Rate per Hour: **\$10.07**

Effective Period: 1/31/2022 - 6/30/2022

Wage Rate per Hour: **\$21.45**

Supplemental Benefit Rate per Hour: **\$10.32**

Plasterer Tender - Second Year

Effective Period: 7/1/2021 - 1/30/2022

Wage Rate per Hour: **\$22.15**

Supplemental Benefit Rate per Hour: **\$10.07**

Effective Period: 1/31/2022 - 6/30/2022

Wage Rate per Hour: **\$23.40**

Supplemental Benefit Rate per Hour: **\$10.32**

Plasterer Tender - Third Year

Effective Period: 7/1/2021 - 1/30/2022

Wage Rate per Hour: **\$23.65**

Supplemental Benefit Rate per Hour: **\$10.07**

Effective Period: 1/31/2022 - 6/30/2022

Wage Rate per Hour: **\$24.90**

Supplemental Benefit Rate per Hour: **\$10.32**

Plasterer Tender - Fourth Year

Effective Period: 7/1/2021 - 1/30/2022

Wage Rate per Hour: **\$26.15**

Supplemental Benefit Rate per Hour: **\$10.07**

Effective Period: 1/31/2022 - 6/30/2022

Wage Rate per Hour: **\$27.40**

Supplemental Benefit Rate per Hour: **\$10.32**

(Local #79)

PLUMBER

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 3)

Plumber - First Year: 1st Six Months

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$16.78**

Supplemental Benefit Rate per Hour: **\$5.43**

Plumber - First Year: 2nd Six Months

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$19.78**

Supplemental Benefit Rate per Hour: **\$6.43**

Plumber - Second Year

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$28.36**

Supplemental Benefit Rate per Hour: **\$21.19**

Plumber - Third Year

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$30.46**

Supplemental Benefit Rate per Hour: **\$21.19**

Plumber - Fourth Year

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$33.31**

Supplemental Benefit Rate per Hour: **\$21.19**

Plumber - Fifth Year: 1st Six Months

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$34.71**

Supplemental Benefit Rate per Hour: **\$21.19**

Plumber - Fifth Year: 2nd Six Months

Effective Period: 7/1/2021 - 6/30/2022

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION APPRENTICE PREVAILING WAGE SCHEDULE

Wage Rate per Hour: **\$46.78**

Supplemental Benefit Rate per Hour: **\$21.19**

(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: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$28.92**

Supplemental Benefit Rate per Hour: **\$14.81**

Pointer, Waterproofer, Caulker, Sandblaster, Steamblaster - Second Year

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$32.58**

Supplemental Benefit Rate per Hour: **\$19.86**

Pointer, Waterproofer, Caulker, Sandblaster, Steamblaster - Third Year

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$37.63**

Supplemental Benefit Rate per Hour: **\$23.61**

Pointer, Waterproofer, Caulker, Sandblaster, Steamblaster - Fourth Year

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$45.44**

Supplemental Benefit Rate per Hour: **\$24.61**

(Bricklayer District Council)

ROOFER

(Ratio of Apprentice to Journeyman: 1 to 1, 1 to 2)

Roofer - First Year

Effective Period: 7/1/2021 - 1/30/2022

Wage Rate Per Hour: 35% of Journeyman's rate

Supplemental Benefit Rate Per Hour: \$3.51

Effective Period: 1/31/2022 - 6/30/2022

Wage Rate Per Hour: 35% of Journeyman's rate

Supplemental Benefit Rate Per Hour: \$3.66

Roofer - Second Year

Effective Period: 7/1/2021 - 1/30/2022

Wage Rate Per Hour: 50% of Journeyman's rate

Supplemental Benefit Rate Per Hour: \$17.54

Effective Period: 1/31/2022 - 6/30/2022

Wage Rate Per Hour: 50% of Journeyman's rate

Supplemental Benefit Rate Per Hour: \$17.91

Roofer - Third Year

Effective Period: 7/1/2021 - 1/30/2022

Wage Rate Per Hour: 60% of Journeyman's rate

Supplemental Benefit Rate Per Hour: \$20.99

Effective Period: 1/31/2022 - 6/30/2022

Wage Rate Per Hour: 60% of Journeyman's rate

Supplemental Benefit Rate Per Hour: \$21.44

Roofer - Fourth Year

Effective Period: 7/1/2021 - 1/30/2022

Wage Rate Per Hour: 75% of Journeyman's rate

Supplemental Benefit Rate Per Hour: \$26.18

Effective Period: 1/31/2022 - 6/30/2022

Wage Rate Per Hour: 75% of Journeyman's rate

Supplemental Benefit Rate Per Hour: \$26.75

(Local #8)

SHEET METAL WORKER

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 3)

Sheet Metal Worker (0-6 Months)

Effective Period: 7/1/2021 - 1/30/2022

Wage Rate Per Hour: 25% of Journeyperson's rate

Supplemental Rate Per Hour: \$6.76

Effective Period: 1/31/2022 - 6/30/2022

Wage Rate Per Hour: 25% of Journeyperson's rate

Supplemental Rate Per Hour: \$6.84

Sheet Metal Worker (7-18 Months)

Effective Period: 7/1/2021 - 1/30/2022

Wage Rate Per Hour: 35% of Journeyperson's rate

Supplemental Rate Per Hour: \$19.55

Effective Period: 1/31/2022 - 6/30/2022

Wage Rate Per Hour: 35% of Journeyperson's rate

Supplemental Rate Per Hour: \$20.20

Sheet Metal Worker (19-30 Months)

Effective Period: 7/1/2021 - 1/30/2022

Wage Rate Per Hour: 45% of Journeyperson's rate

Supplemental Rate Per Hour: \$26.65

Effective Period: 1/31/2022 - 6/30/2022

Wage Rate Per Hour: 45% of Journeyperson's rate

Supplemental Rate Per Hour: \$27.48

Sheet Metal Worker (31-36 Months)

Effective Period: 7/1/2021 - 1/30/2022

Wage Rate Per Hour: 55% of Journeyperson's rate

Supplemental Rate Per Hour: \$31.50

Effective Period: 1/31/2022 - 6/30/2022

Wage Rate Per Hour: 55% of Journeyperson's rate

Supplemental Rate Per Hour: \$32.52

Sheet Metal Worker (37-42 Months)

Effective Period: 7/1/2021 - 1/30/2022

Wage Rate Per Hour: 55% of Journeyperson's rate

Supplemental Rate Per Hour: \$31.50

Effective Period: 1/31/2022 - 6/30/2022

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION APPRENTICE PREVAILING WAGE SCHEDULE

Wage Rate Per Hour: 55% of Journeyperson's rate
Supplemental Rate Per Hour: \$32.52

Sheet Metal Worker (43-48 Months)

Effective Period: 7/1/2021 - 1/30/2022
Wage Rate Per Hour: 70% of Journeyperson's rate
Supplemental Rate Per Hour: \$38.78

Effective Period: 1/31/2022 - 6/30/2022
Wage Rate Per Hour: 70% of Journeyperson's rate
Supplemental Rate Per Hour: \$40.08

Sheet Metal Worker (49-54 Months)

Effective Period: 7/1/2021 - 1/30/2022
Wage Rate Per Hour: 70% of Journeyperson's rate
Supplemental Rate Per Hour: \$38.78

Effective Period: 1/31/2022 - 6/30/2022
Wage Rate Per Hour: 70% of Journeyperson's rate
Supplemental Rate Per Hour: \$40.08

Sheet Metal Worker (55-60 Months)

Effective Period: 7/1/2021 - 1/30/2022
Wage Rate Per Hour: 80% of Journeyperson's rate
Supplemental Rate Per Hour: \$43.65

Effective Period: 1/31/2022 - 6/30/2022
Wage Rate Per Hour: 80% of Journeyperson's rate
Supplemental Rate Per Hour: \$45.12

(Local #28)

SIGN ERECTOR

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 4)

Sign Erector - First Year: 1st Six Months

Effective Period: 7/1/2021 - 1/30/2022
Wage Rate Per Hour: 35% of Journeyperson's rate
Supplemental Rate Per Hour: \$16.51

Effective Period: 1/31/2022 - 6/30/2022
Wage Rate Per Hour: 35% of Journeyperson's rate

**OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION APPRENTICE PREVAILING WAGE SCHEDULE**

Supplemental Rate Per Hour: \$17.09

Sign Erector - First Year: 2nd Six Months

Effective Period: 7/1/2021 - 1/30/2022

Wage Rate Per Hour: 40% of Journey person's rate

Supplemental Rate Per Hour: \$18.74

Effective Period: 1/31/2022 - 6/30/2022

Wage Rate Per Hour: 40% of Journey person's rate

Supplemental Rate Per Hour: \$19.39

Sign Erector - Second Year: 1st Six Months

Effective Period: 7/1/2021 - 1/30/2022

Wage Rate Per Hour: 45% of Journey person's rate

Supplemental Rate Per Hour: \$20.96

Effective Period: 1/31/2022 - 6/30/2022

Wage Rate Per Hour: 45% of Journey person's rate

Supplemental Rate Per Hour: \$21.70

Sign Erector - Second Year: 2nd Six Months

Effective Period: 7/1/2021 - 1/30/2022

Wage Rate Per Hour: 50% of Journey person's rate

Supplemental Rate Per Hour: \$23.21

Effective Period: 1/31/2022 - 6/30/2022

Wage Rate Per Hour: 50% of Journey person's rate

Supplemental Rate Per Hour: \$24.02

Sign Erector - Third Year: 1st Six Months

Effective Period: 7/1/2021 - 1/30/2022

Wage Rate Per Hour: 55% of Journey person's rate

Supplemental Rate Per Hour: \$31.44

Effective Period: 1/31/2022 - 6/30/2022

Wage Rate Per Hour: 55% of Journey person's rate

Supplemental Rate Per Hour: \$32.50

Sign Erector - Third Year: 2nd Six Months

Effective Period: 7/1/2021 - 1/30/2022

Wage Rate Per Hour: 60% of Journey person's rate

Supplemental Rate Per Hour: \$34.20

Effective Period: 1/31/2022 - 6/30/2022

Wage Rate Per Hour: 60% of Journey person's rate

Supplemental Rate Per Hour: \$35.35

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION APPRENTICE PREVAILING WAGE SCHEDULE

Sign Erector - Fourth Year: 1st Six Months

Effective Period: 7/1/2021 - 1/30/2022
Wage Rate Per Hour: 65% of Journeyperson's rate
Supplemental Rate Per Hour: \$37.76

Effective Period: 1/31/2022 - 6/30/2022
Wage Rate Per Hour: 65% of Journeyperson's rate
Supplemental Rate Per Hour: \$39.00

Sign Erector - Fourth Year: 2nd Six Months

Effective Period: 7/1/2021 - 1/30/2022
Wage Rate Per Hour: 70% of Journeyperson's rate
Supplemental Rate Per Hour: \$40.62

Effective Period: 1/31/2022 - 6/30/2022
Wage Rate Per Hour: 70% of Journeyperson's rate
Supplemental Rate Per Hour: \$41.95

Sign Erector - Fifth Year

Effective Period: 7/1/2021 - 1/30/2022
Wage Rate Per Hour: 75% of Journeyperson's rate
Supplemental Rate Per Hour: \$43.44

Effective Period: 1/31/2022 - 6/30/2022
Wage Rate Per Hour: 75% of Journeyperson's rate
Supplemental Rate Per Hour: \$44.89

Sign Erector - Sixth Year

Effective Period: 7/1/2021 - 1/30/2022
Wage Rate Per Hour: 80% of Journeyperson's rate
Supplemental Rate Per Hour: \$46.27

Effective Period: 1/31/2022 - 6/30/2022
Wage Rate Per Hour: 80% of Journeyperson's rate
Supplemental Rate Per Hour: \$47.80

(Local #137)

STEAMFITTER

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 3)

Steamfitter - First Year

**OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION APPRENTICE PREVAILING WAGE SCHEDULE**

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate and Supplemental Per Hour: 40% of Journeyperson's rate

Steamfitter - Second Year

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate and Supplemental Rate Per Hour: 50% of Journeyperson's rate.

Steamfitter - Third Year

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate and Supplemental Rate per Hour: 65% of Journeyperson's rate.

Steamfitter - Fourth Year

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate and Supplemental Rate Per Hour: 80% of Journeyperson's rate.

Steamfitter - Fifth Year

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate and Supplemental Rate Per Hour: 85% 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: 7/1/2021 - 1/30/2022

Wage Rate per Hour: **\$20.75**

Supplemental Benefit Rate per Hour: **\$12.99**

Effective Period: 1/31/2022 - 6/30/2022

Wage Rate per Hour: **\$21.11**

Supplemental Benefit Rate per Hour: **\$13.15**

Refrigeration & Air Conditioner (Second Year)

Effective Period: 7/1/2021 - 1/30/2022

Wage Rate per Hour: **\$25.04**

Supplemental Benefit Rate per Hour: **\$14.23**

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION APPRENTICE PREVAILING WAGE SCHEDULE

Effective Period: 1/31/2022 - 6/30/2022

Wage Rate per Hour: **\$25.48**

Supplemental Benefit Rate per Hour: **\$14.41**

Refrigeration & Air Conditioner (Third Year)

Effective Period: 7/1/2021 - 1/30/2022

Wage Rate per Hour: **\$29.17**

Supplemental Benefit Rate per Hour: **\$15.53**

Effective Period: 1/31/2022 - 6/30/2022

Wage Rate per Hour: **\$29.68**

Supplemental Benefit Rate per Hour: **\$15.73**

Refrigeration & Air Conditioner (Fourth Year)

Effective Period: 7/1/2021 - 1/30/2022

Wage Rate per Hour: **\$35.22**

Supplemental Benefit Rate per Hour: **\$17.29**

Effective Period: 1/31/2022 - 6/30/2022

Wage Rate per Hour: **\$35.84**

Supplemental Benefit Rate per Hour: **\$17.51**

(Local #638-B)

STONE MASON - SETTER

(Ratio Apprentice of Journeyman: 1 to 1, 1 to 2)

Stone Mason - Setters - First 750 Hours

Effective Period: 7/1/2021 - 6/30/2022

Wage and Supplemental Rate Per Hour: 50% of Journeyman's rate

Stone Mason - Setters - Second 750 Hours

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate Per Hour: 60% of Journeyman's rate

Supplemental Rate Per Hour: 50% of Journeyman's rate

Stone Mason - Setters - Third 750 Hours

Effective Period: 7/1/2021 - 6/30/2022

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION APPRENTICE PREVAILING WAGE SCHEDULE

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: 7/1/2021 - 6/30/2022
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: 7/1/2021 - 6/30/2022
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: 7/1/2021 - 6/30/2022
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: 7/1/2021 - 6/30/2022
Wage Rate per Hour: **\$20.97**
Supplemental Benefit Rate per Hour: **\$13.55**

Drywall Taper - Second Year

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: **\$24.24**
Supplemental Benefit Rate per Hour: **\$20.31**

Drywall Taper - Third Year

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: **\$29.08**
Supplemental Benefit Rate per Hour: **\$22.06**

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION APPRENTICE PREVAILING WAGE SCHEDULE

Drywall Taper - Fourth Year

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$38.78**

Supplemental Benefit Rate per Hour: **\$25.56**

(Local #1974)

TILE LAYER - SETTER

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 4)

Tile Layer - Setter - First 750 Hours

Effective Period: 7/1/2021 - 6/30/2022

Wage and Supplemental Rate Per Hour: 35% of Journeyperson's rate

Tile Layer - Setter - Second 750 Hours

Effective Period: 7/1/2021 - 6/30/2022

Wage and Supplemental Rate Per Hour 40% of Journeyperson's rate

Tile Layer - Setter - Third 750 Hours

Effective Period: 7/1/2021 - 6/30/2022

Wage and Supplemental Rate Per Hour: 50% of Journeyperson's rate

Tile Layer - Setter - Fourth 750 Hours

Effective Period: 7/1/2021 - 6/30/2022

Wage and Supplemental Rate Per Hour: 55% of Journeyperson's rate

Tile Layer - Setter - Fifth 750 Hours

Effective Period: 7/1/2021 - 6/30/2022

Wage and Supplemental Rate Per Hour: 60% of Journeyperson's rate

Tile Layer - Setter - Sixth 750 Hours

Effective Period: 7/1/2021 - 6/30/2022

Wage and Supplemental Rate Per Hour: 65% of Journeyperson's rate

Tile Layer - Setter - Seventh 750 Hours

Effective Period: 7/1/2021 - 6/30/2022

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION APPRENTICE PREVAILING WAGE SCHEDULE

Wage and Supplemental Rate Per Hour: 70% of Journeyperson's rate

Tile Layer - Setter - Eighth 750 Hours

Effective Period: 7/1/2021 - 6/30/2022

Wage and Supplemental Rate Per Hour: 75% of Journeyperson's rate

Tile Layer - Setter - Ninth 750 Hours

Effective Period: 7/1/2021 - 6/30/2022

Wage and Supplemental Rate Per Hour: 80% of Journeyperson's rate

Tile Layer - Setter - Tenth 750 Hours

Effective Period: 7/1/2021 - 6/30/2022

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: 7/1/2021 - 6/30/2022

Wage Rate Per Hour: \$21.42

Supplemental Rate Per Hour: \$35.22

Timberperson - Second Year

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate Per Hour: \$26.53

Supplemental Rate Per Hour: \$35.22

Timberperson - Third Year

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate Per Hour: \$34.18

Supplemental Rate Per Hour: \$35.22

Timberperson - Fourth Year

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate Per Hour: \$41.84

Supplemental Rate Per Hour: \$35.22

**OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION APPRENTICE PREVAILING WAGE SCHEDULE**

(Local #1536)

**OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE**

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: Bureau of Labor Law, Attn: Wasyl Kinach, P.E., Office of the Comptroller, 1 Centre Street, Room 651, New York, N.Y. 10007; Fax (212) 669-4002.

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

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

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.

Wasył Kinach, P.E.
Director of Classifications
Bureau of Labor Law

ADDENDUM

List of Amended Classifications

1. BOILERMAKER
2. CORE DRILLER
3. DERRICKPERSON AND RIGGER
4. ELECTRICIAN - ALARM TECHNICIAN
5. GLAZIER
6. HAZARDOUS MATERIAL HANDLER
7. HOUSE WRECKER
8. IRON WORKER - ORNAMENTAL
9. IRON WORKER - STRUCTURAL
10. MARBLE MECHANIC
11. MASON TENDER
12. MOSAIC MECHANIC
13. PLASTERER - TENDER
14. PLUMBER (MECHNICAL EQUIPMENT AND SERVICE)
15. PLUMBER: PUMP & TANK
16. SHEET METAL WORKER
17. SHEET METAL WORKER - SPECIALTY
18. SIGN ERECTOR
19. STEAMFITTER
20. STEAMFITTER - REFRIGERATION AND AIR CONDITIONER
21. TILE FINISHER
22. TILE LAYER - SETTER

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

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ASBESTOS HANDLER SEE HAZARDOUS MATERIAL HANDLER

BLASTER

Blaster

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$56.71**

Supplemental Benefit Rate per Hour: **\$48.63**

Blaster - Hydraulic Trac Drill

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$50.85**

Supplemental Benefit Rate per Hour: **\$48.63**

Blaster - Wagon: Air Trac: Quarry Bar: Drillrunners

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$50.02**

Supplemental Benefit Rate per Hour: **\$48.63**

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: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$43.50**

Supplemental Benefit Rate per Hour: **\$48.63**

Blaster - Magazine Keepers: (Watch Person)

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$21.75**

Supplemental Benefit Rate per Hour: **\$48.63**

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.

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

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: 7/1/2021 - 1/30/2022

Wage Rate per Hour: **\$63.38**

Supplemental Benefit Rate per Hour: **\$46.67**

Supplemental Note: For time and one half overtime - \$69.56 For double overtime - \$92.44

Effective Period: 1/31/2022 - 6/30/2022

Wage Rate per Hour: **\$64.38**

Supplemental Benefit Rate per Hour: **\$47.35**

Supplemental Note: For time and one half overtime - \$70.58 For double overtime - \$93.80

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.

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

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: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$57.64**

Supplemental Benefit Rate per Hour: **\$35.95**

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.

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

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: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$54.75**

Supplemental Benefit Rate per Hour: **\$47.13**

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

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

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: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$56.93**

Supplemental Benefit Rate per Hour: **\$53.49**

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

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

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. 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: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$50.78**

Supplemental Benefit Rate per Hour: **\$44.44**

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: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$40.19**

Supplemental Benefit Rate per Hour: **\$17.75**

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

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

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: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$52.00**

Supplemental Benefit Rate per Hour: **\$47.40**

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

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

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: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$35.69**

Supplemental Benefit Rate per Hour: **\$22.24**

Tank Helper

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$28.23**

Supplemental Benefit Rate per Hour: **\$22.24**

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.

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:

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

Two (2) sick days after being employed for twenty (20) years.

(Carpenters District Council)

CEMENT & CONCRETE WORKER

Cement & Concrete Worker

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$45.28**

Supplemental Benefit Rate per Hour: **\$30.20**

Supplemental Note: \$34.20 on Saturdays; \$38.20 on Sundays & Holidays

Cement & Concrete Worker - (Hired after 2/6/2016)

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$34.80**

Supplemental Benefit Rate per Hour: **\$22.20**

Supplemental Note: \$24.20 on Saturdays; \$26.20 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

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

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: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$45.77**

Supplemental Benefit Rate per Hour: **\$41.01**

Supplemental Note: Supplemental benefit time and one half rate: \$71.97; 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

Core Driller

Effective Period: 7/1/2021 - 10/17/2021

Wage Rate per Hour: **\$41.74**

Supplemental Benefit Rate per Hour: **\$29.40**

Effective Period: 10/18/2021 - 1/30/2022

Wage Rate per Hour: **\$42.27**

Supplemental Benefit Rate per Hour: **\$30.60**

Effective Period: 1/31/2022 - 6/30/2022

Wage Rate per Hour: **\$42.54**

Supplemental Benefit Rate per Hour: **\$30.60**

Core Driller Helper

Effective Period: 7/1/2021 - 10/17/2021

Wage Rate per Hour: **\$32.92**

Supplemental Benefit Rate per Hour: **\$29.40**

Effective Period: 10/18/2021 - 6/30/2022

Wage Rate per Hour: **\$33.47**

Supplemental Benefit Rate per Hour: **\$30.60**

Core Driller Helper(Third year in the industry)

Effective Period: 7/1/2021 - 10/17/2021

Wage Rate per Hour: **\$29.63**

Supplemental Benefit Rate per Hour: **\$29.40**

Effective Period: 10/18/2021 - 6/30/2022

Wage Rate per Hour: **\$30.12**

Supplemental Benefit Rate per Hour: **\$30.60**

Core Driller Helper (Second year in the industry)

Effective Period: 7/1/2021 - 10/17/2021

Wage Rate per Hour: **\$26.34**

Supplemental Benefit Rate per Hour: **\$29.40**

Effective Period: 10/18/2021 - 6/30/2022

Wage Rate per Hour: **\$26.78**

Supplemental Benefit Rate per Hour: **\$30.60**

Core Driller Helper (First year in the industry)

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

Effective Period: 7/1/2021 - 10/17/2021

Wage Rate per Hour: **\$23.04**

Supplemental Benefit Rate per Hour: **\$29.40**

Effective Period: 10/18/2021 - 6/30/2022

Wage Rate per Hour: **\$23.43**

Supplemental Benefit Rate per Hour: **\$30.60**

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

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: 7/1/2021 - 1/30/2022

Wage Rate per Hour: **\$53.99**

Supplemental Benefit Rate per Hour: **\$55.10**

Supplemental Note: The above supplemental rate applies for work performed in Manhattan, Bronx, Brooklyn and Queens. \$56.52 - For work performed in Staten Island.

Effective Period: 1/31/2022 - 6/30/2022

Wage Rate per Hour: **\$54.50**

Supplemental Benefit Rate per Hour: **\$56.24**

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

Derrick Person & Rigger - Site Work

Assists the Stone Mason-Setter in the setting of stone and paving stone.

Effective Period: 7/1/2021 - 1/30/2022

Wage Rate per Hour: **\$44.86**

Supplemental Benefit Rate per Hour: **\$43.37**

Effective Period: 1/31/2022 - 6/30/2022

Wage Rate per Hour: **\$45.42**

Supplemental Benefit Rate per Hour: **\$43.86**

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. Deduct \$1.42 from the Staten Island hourly benefits rate before computing overtime.

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: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$71.80**

Supplemental Benefit Rate per Hour: **\$53.49**

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

Diver Tender (Marine)

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$51.34**

Supplemental Benefit Rate per Hour: **\$53.49**

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: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$56.93**

Supplemental Benefit Rate per Hour: **\$53.49**

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.

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

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.

(Carpenters District Council)

DRIVER: TRUCK (TEAMSTER)

Driver - Dump Truck

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$43.83**

Supplemental Benefit Rate per Hour: **\$51.55**

Supplemental Note: Over 40 hours worked: at time and one half rate - \$22.50; at double time rate - \$30.00

Driver - Tractor Trailer

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$46.12**

Supplemental Benefit Rate per Hour: **\$51.50**

Supplemental Note: Over 40 hours worked: at time and one half rate - \$22.50; at double time rate - \$30.00

Driver - Euclid & Turnapull Operator

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$46.68**

Supplemental Benefit Rate per Hour: **\$51.50**

Supplemental Note: Over 40 hours worked: at time and one half rate - \$22.50; at double time rate - \$30.00

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

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

President's Day

Memorial Day

Independence Day

Labor Day

Columbus Day

Veteran's Day

Thanksgiving Day

Day after Thanksgiving

Christmas Day

Paid Holidays

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

Off shift work commencing between 6:00 P.M. and 4:30 A.M. shall work eight and one half (8 1/2) hours allowing for one half hour for lunch and receive 9 hours pay for 8 hours of work.

Driver Redi-Mix (Sand & Gravel)

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$40.89**

Supplemental Benefit Rate per Hour: **\$47.01**

Supplemental Note: Over 40 hours worked: time and one half rate \$18.01; double time rate \$24.01

Overtime Description

**OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE**

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).

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

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: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$58.00**

Supplemental Benefit Rate per Hour: **\$54.86**

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

* 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: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$87.00**

Supplemental Benefit Rate per Hour: **\$56.73**

* Supplemental Note: See Supplemental Benefit Rate per Hour Note below

Electrician "A" (Swing Shift)

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$68.05**

Supplemental Benefit Rate per Hour: **\$62.39**

* Supplemental Note: See Supplemental Benefit Rate per Hour Note below

Electrician "A" (Swing Shift Overtime after 7.5 hours)

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$102.08**

Supplemental Benefit Rate per Hour: **\$64.58**

* Supplemental Note: See Supplemental Benefit Rate per Hour Note below

Electrician "A" (Graveyard Shift)

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$76.23**

Supplemental Benefit Rate per Hour: **\$68.74**

* Supplemental Note: See Supplemental Benefit Rate per Hour Note below

Electrician "A" (Graveyard Shift Overtime after 7 hours)

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$114.35**

Supplemental Benefit Rate per Hour: **\$71.19**

* 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.

**OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE**

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 \$21.86 - 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: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$30.50**

Supplemental Benefit Rate per Hour: **\$24.45**

First and Second Year "M" Wage Rate Per Hour: **\$26.00**

First and Second Year "M" Supplemental Rate: **\$22.06**

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: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$45.75**

Supplemental Benefit Rate per Hour: **\$26.38**

First and Second Year "M" Wage Rate Per Hour: **\$39.00**

First and Second Year "M" Supplemental Rate: **\$23.70**

Overtime

Time and one half the regular rate after an 8 hour day.

Time and one half the regular rate for Saturday.

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

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: 7/1/2021 - 1/30/2022

Wage Rate per Hour: **\$33.90**

Supplemental Benefit Rate per Hour: **\$18.43**

Supplemental Note: \$16.80 only after 8 hours worked in a day

Effective Period: 1/31/2022 - 6/30/2022

Wage Rate per Hour: **\$34.40**

Supplemental Benefit Rate per Hour: **\$19.32**

Supplemental Note: \$17.57 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

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

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: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$58.00**

Supplemental Benefit Rate per Hour: **\$56.83**

* Supplemental Note: See Supplemental Benefit Rate per Hour Note below

Electrician - Electro Pole Foundation Installer

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$43.16**

Supplemental Benefit Rate per Hour: **\$42.15**

* Supplemental Note: See Supplemental Benefit Rate per Hour Note below

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

Electrician - Electro Pole Maintainer

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$37.11**

Supplemental Benefit Rate per Hour: **\$38.04**

* 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: 7/1/2021 - 3/16/2022

Wage Rate per Hour: **\$72.29**

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

Supplemental Benefit Rate per Hour: **\$38.29**

Effective Period: 3/17/2022 - 6/30/2022

Wage Rate per Hour: **\$75.14**

Supplemental Benefit Rate per Hour: **\$39.10**

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: 7/1/2021 - 3/16/2022

Wage Rate per Hour: **\$56.77**

Supplemental Benefit Rate per Hour: **\$38.19**

Effective Period: 3/17/2022 - 6/30/2022

Wage Rate per Hour: **\$59.09**

Supplemental Benefit Rate per Hour: **\$39.00**

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

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

Cherry pickers 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: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$74.65**

Supplemental Benefit Rate per Hour: **\$42.06**

Supplemental Note: \$76.72 on overtime

Shift Wage Rate: **\$119.44**

**OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE**

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 man auger.

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$72.40**

Supplemental Benefit Rate per Hour: **\$42.06**

Supplemental Note: \$76.72 on overtime

Shift Wage Rate: **\$115.84**

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: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$68.62**

Supplemental Benefit Rate per Hour: **\$42.06**

Supplemental Note: \$76.72 on overtime

Shift Wage Rate: **\$109.79**

Engineer - Heavy Construction Maintenance Engineer I

Installing, Repairing, Maintaining, Dismantling and Manning 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: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$72.05**

Supplemental Benefit Rate per Hour: **\$42.06**

Supplemental Note: \$76.72 on overtime

Shift Wage Rate: **\$115.28**

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

Engineer - Heavy Construction Maintenance Engineer II

On Base Mounted Tower Cranes

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$95.02**

Supplemental Benefit Rate per Hour: **\$42.06**

Supplemental Note: \$76.72 on overtime

Shift Wage Rate: **\$152.03**

Engineer - Heavy Construction Maintenance Engineer III

On Generators, Light Towers

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$47.10**

Supplemental Benefit Rate per Hour: **\$42.06**

Supplemental Note: \$76.72 on overtime

Shift Wage Rate: **\$75.36**

Engineer - Heavy Construction Maintenance Engineer IV

On Pumps and Mixers including mud sucking

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$48.35**

Supplemental Benefit Rate per Hour: **\$42.06**

Supplemental Note: \$76.72 on overtime

Shift Wage Rate: **\$77.36**

Engineer - Heavy Construction Service Engineer

Gradalls: Concrete Pumps: Power Houses: Driving Truck Cranes: Driving and Operating Fuel and Grease Trucks.

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$64.82**

Supplemental Benefit Rate per Hour: **\$42.06**

Supplemental Note: \$76.72 on overtime

Shift Wage Rate: **\$103.71**

Engineer - Heavy Construction Service Mechanic

Shovels: Cranes: Draglines: Backhoes: Keystones: Pavers: Trenching Machines: Guniting 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: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$44.45**

Supplemental Benefit Rate per Hour: **\$42.06**

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

Supplemental Note: \$76.72 on overtime

Shift Wage Rate: \$71.12

Engineer - Steel Erection Maintenance Engineers

Derrick, Travelers, Tower, Crawler Tower and Climbing Cranes

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: \$68.93

Supplemental Benefit Rate per Hour: \$42.06

Supplemental Note: \$76.72 on overtime

Shift Wage Rate: \$110.29

Engineer - Steel Erection Oiler I

On a Truck Crane

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: \$64.43

Supplemental Benefit Rate per Hour: \$42.06

Supplemental Note: \$76.72 on overtime

Shift Wage Rate: \$103.09

Engineer - Steel Erection Oiler II

On a Crawler Crane

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: \$48.72

Supplemental Benefit Rate per Hour: \$42.06

Supplemental Note: \$76.72 on overtime

Shift Wage Rate: \$77.95

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

Lincoln's Birthday

President's Day

Memorial Day

Independence Day

**OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE**

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

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: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$64.11**

Supplemental Benefit Rate per Hour: **\$41.15**

Supplemental Note: \$74.90 on overtime

Engineer - Building Work Maintenance Engineers II

On Pumps, Generators, Mixers and Heaters

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$49.49**

Supplemental Benefit Rate per Hour: **\$41.15**

Supplemental Note: \$74.90 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: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$60.89**

Supplemental Benefit Rate per Hour: **\$41.15**

Supplemental Note: \$74.90 on overtime

Engineer - Building Work Oilers II

Oilers on Crawler Cranes, Backhoes, Trenching Machines, Gunit Machine, Compressors (three or more in Battery).

Effective Period: 7/1/2021 - 6/30/2022

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

Wage Rate per Hour: **\$44.88**

Supplemental Benefit Rate per Hour: **\$41.15**

Supplemental Note: \$74.90 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

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

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: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$41.98**

Supplemental Benefit Rate per Hour: **\$24.40**

Supplemental Note: Overtime Benefit Rate - \$29.35 per hour (time & one half) \$34.30 per hour (double time).

Instrument Person

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$34.32**

Supplemental Benefit Rate per Hour: **\$24.40**

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

Supplemental Note: Overtime Benefit Rate - \$29.35 per hour (time & one half) \$34.30 per hour (double time).

Rodperson

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$29.49**

Supplemental Benefit Rate per Hour: **\$24.40**

Supplemental Note: Overtime Benefit Rate - \$29.35 per hour (time & one half) \$34.30 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: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$66.42**

Supplemental Benefit Rate per Hour: **\$37.16**

Supplemental Note: Overtime Benefit Rate - \$52.27 per hour (time & one half) \$67.37 per hour (double time).

Field Engineer - BC Instrument Person

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$51.37**

Supplemental Benefit Rate per Hour: **\$37.16**

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

Supplemental Note: Overtime Benefit Rate - \$52.27 per hour (time & one half) \$67.37 per hour (double time).

Field Engineer - BC Rodperson

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$32.84**

Supplemental Benefit Rate per Hour: **\$37.16**

Supplemental Note: Overtime Benefit Rate - \$52.27 per hour (time & one half) \$67.37 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: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$77.31**

Supplemental Benefit Rate per Hour: **\$39.64**

Supplemental Note: Overtime benefit rate - \$55.86 per hour (time & one half), \$72.08 per hour (double time).

Field Engineer - HC Instrument Person

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$56.50**

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

Supplemental Benefit Rate per Hour: **\$39.64**

Supplemental Note: Overtime benefit rate - \$55.86 per hour (time & one half), \$72.08 per hour (double time).

Field Engineer - HC Rodperson

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$47.23**

Supplemental Benefit Rate per Hour: **\$39.64**

Supplemental Note: Overtime benefit rate - \$55.86 per hour (time & one half), \$72.08 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

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: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$71.98**

Supplemental Benefit Rate per Hour: **\$39.14**

Supplemental Note: Overtime benefit rate - \$55.11 per hour (time & one half), \$71.08 per hour (double time).

Field Engineer - Steel Erection Instrument Person

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$55.85**

Supplemental Benefit Rate per Hour: **\$39.14**

Supplemental Note: Overtime benefit rate - \$55.11 per hour (time & one half), \$71.08 per hour (double time).

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CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

Field Engineer - Steel Erection Rodperson

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$36.99**

Supplemental Benefit Rate per Hour: **\$39.14**

Supplemental Note: Overtime benefit rate - \$55.11 per hour (time & one half), \$71.08 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: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$86.05**

Supplemental Benefit Rate per Hour: **\$34.55**

Supplemental Note: \$63.15 overtime hours

Shift Wage Rate: **\$137.68**

Operating Engineer - Road & Heavy Construction II

Backhoes, Power Shovels, Hydraulic Clam Shells, Steel Erection, Moles and machines of a similar nature.

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Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: \$89.05

Supplemental Benefit Rate per Hour: \$34.55

Supplemental Note: \$63.15 overtime hours

Shift Wage Rate: \$142.48

Operating Engineer - Road & Heavy Construction III

Mine Hoists (Cranes, etc. when used as Mine Hoists)

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: \$91.89

Supplemental Benefit Rate per Hour: \$34.55

Supplemental Note: \$63.15 overtime hours

Shift Wage Rate: \$147.02

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: 7/1/2021 - 6/30/2022

Wage Rate per Hour: \$89.70

Supplemental Benefit Rate per Hour: \$34.55

Supplemental Note: \$63.15 overtime hours

Shift Wage Rate: \$143.52

Operating Engineer - Road & Heavy Construction V

Pile Drivers & Rigs (working alongside Dock Builder foreperson): Derrick Boats, Tunnel Shovels.

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: \$87.94

Supplemental Benefit Rate per Hour: \$34.55

Supplemental Note: \$63.15 overtime hours

Shift Wage Rate: \$140.70

Operating Engineer - Road & Heavy Construction VI

Mixers (Concrete with loading attachment), Concrete Pavers, Cableways, Land Derricks, Power Houses (Low Air Pressure Units).

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: \$83.59

Supplemental Benefit Rate per Hour: \$34.55

Supplemental Note: \$63.15 overtime hours

Shift Wage Rate: \$133.74

Operating Engineer - Road & Heavy Construction VII

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CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE**

Barrier Movers, Barrier Transport and Machines of a Similar Nature.

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: \$67.71

Supplemental Benefit Rate per Hour: \$34.55

Supplemental Note: \$63.15 overtime hours

Shift Wage Rate: \$108.34

Operating Engineer - Road & Heavy Construction VIII

Utility Compressors

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: \$52.77

Supplemental Benefit Rate per Hour: \$34.55

Supplemental Note: \$63.15 overtime hours

Shift Wage Rate: \$66.26

Operating Engineer - Road & Heavy Construction IX

Horizontal Boring Rig

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: \$79.56

Supplemental Benefit Rate per Hour: \$34.55

Supplemental Note: \$63.15 overtime hours

Shift Wage Rate: \$127.30

Operating Engineer - Road & Heavy Construction X

Elevators (manually operated as personnel hoist).

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: \$73.21

Supplemental Benefit Rate per Hour: \$34.55

Supplemental Note: \$63.15 overtime hours

Shift Wage Rate: \$117.14

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: 7/1/2021 - 6/30/2022

Wage Rate per Hour: \$57.06

Supplemental Benefit Rate per Hour: \$34.55

Supplemental Note: \$63.15 overtime hours

Shift Wage Rate: \$91.30

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CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

Operating Engineer - Road & Heavy Construction XII

All Drills and Machines of a similar nature.

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$84.48**

Supplemental Benefit Rate per Hour: **\$34.55**

Supplemental Note: \$63.15 overtime hours

Shift Wage Rate: **\$135.17**

Operating Engineer - Road & Heavy Construction XIII

Concrete Pumps, Concrete Plant, Stone Crushers, Double Drum Hoist, Power Houses (other than above).

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$81.85**

Supplemental Benefit Rate per Hour: **\$34.55**

Supplemental Note: \$63.15 overtime hours

Shift Wage Rate: **\$130.96**

Operating Engineer - Road & Heavy Construction XIV

Concrete Mixer

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$78.28**

Supplemental Benefit Rate per Hour: **\$34.55**

Supplemental Note: \$63.15 overtime hours

Shift Wage Rate: **\$125.25**

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: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$53.11**

Supplemental Benefit Rate per Hour: **\$34.55**

Supplemental Note: \$63.15 overtime hours

Shift Wage Rate: **\$84.98**

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: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$74.81**

Supplemental Benefit Rate per Hour: **\$34.55**

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CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

Supplemental Note: \$63.15 overtime hours
Shift Wage Rate: \$119.70

Operating Engineer - Road & Heavy Construction XVII

On-Site concrete plant engineer, On-site Asphalt Plant Engineer, and Vibratory console.

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: \$75.36
Supplemental Benefit Rate per Hour: \$34.55
Supplemental Note: \$63.15 overtime hours
Shift Wage Rate: \$120.58

Operating Engineer - Road & Heavy Construction XVIII

Tower Crane

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: \$107.75
Supplemental Benefit Rate per Hour: \$34.55
Supplemental Note: \$63.15 overtime hours
Shift Wage Rate: \$172.40

Operating Engineer - Paving I

Asphalt Spreaders, Autogrades (C.M.I.), Roto/Mil

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: \$83.59
Supplemental Benefit Rate per Hour: \$34.55
Supplemental Note: \$63.15 overtime hours
Shift Wage Rate: \$133.74

Operating Engineer - Paving II

Asphalt Roller

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: \$81.47
Supplemental Benefit Rate per Hour: \$34.55
Supplemental Note: \$63.15 overtime hours
Shift Wage Rate: \$130.35

Operating Engineer - Paving III

Asphalt Plants

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: \$69.04

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CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE**

Supplemental Benefit Rate per Hour: \$34.55
Supplemental Note: \$63.15 overtime hours
Shift Wage Rate: \$110.46

Operating Engineer - Concrete I

Cranes

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: \$89.31
Supplemental Benefit Rate per Hour: \$34.55
Supplemental Note: \$63.15 overtime hours

Operating Engineer - Concrete II

Compressors

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: \$53.51
Supplemental Benefit Rate per Hour: \$34.55
Supplemental Note: \$63.15 overtime hours

Operating Engineer - Concrete III

Micro-traps (Negative Air Machines), Vac-All Remediation System.

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: \$71.55
Supplemental Benefit Rate per Hour: \$34.55
Supplemental Note: \$63.15 overtime hours

Operating Engineer - Steel Erection I

Three Drum Derricks

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: \$92.36
Supplemental Benefit Rate per Hour: \$34.55
Supplemental Note: \$63.15 overtime hours
Shift Wage Rate: \$147.78

Operating Engineer - Steel Erection II

Cranes, 2 Drum Derricks, Hydraulic Cranes, Fork Lifts and Boom Trucks.

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: \$88.77
Supplemental Benefit Rate per Hour: \$34.55
Supplemental Note: \$63.15 overtime hours
Shift Wage Rate: \$142.03

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CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

Operating Engineer - Steel Erection III

Compressors, Welding Machines.

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$53.07**

Supplemental Benefit Rate per Hour: **\$34.55**

Supplemental Note: \$63.15 overtime hours

Shift Wage Rate: **\$84.91**

Operating Engineer - Steel Erection IV

Compressors - Not Combined with Welding Machine. (Public Works Only)

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$50.56**

Supplemental Benefit Rate per Hour: **\$34.55**

Supplemental Note: \$63.15 overtime hours

Shift Wage Rate: **\$80.90**

Operating Engineer - Building Work I

Forklifts, Plaster (Platform machine), Plaster Bucket, Concrete Pump and all other equipment used for hoisting material.

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$70.94**

Supplemental Benefit Rate per Hour: **\$34.55**

Supplemental Note: \$63.15 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: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$53.12**

Supplemental Benefit Rate per Hour: **\$34.55**

Supplemental Note: \$63.15 overtime hours

Operating Engineer - Building Work III

Double Drum

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$84.16**

Supplemental Benefit Rate per Hour: **\$34.55**

Supplemental Note: \$63.15 overtime hours

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

Operating Engineer - Building Work IV

Stone Derrick, Cranes, Hydraulic Cranes Boom Trucks.

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$89.10**

Supplemental Benefit Rate per Hour: **\$34.55**

Supplemental Note: \$63.15 overtime hours

Operating Engineer - Building Work V

Dismantling and Erection of Cranes, Relief Engineer.

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$78.81**

Supplemental Benefit Rate per Hour: **\$34.55**

Supplemental Note: \$63.15 overtime hours

Operating Engineer - Building Work VI

4 Pole Hoist, Single Drum Hoists.

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$77.98**

Supplemental Benefit Rate per Hour: **\$34.55**

Supplemental Note: \$63.15 overtime hours

Operating Engineer - Building Work VII

Rack & Pinion and House Cars

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$62.01**

Supplemental Benefit Rate per Hour: **\$34.55**

Supplemental Note: \$63.15 overtime hours

For New House Car projects Wage Rate per Hour **\$49.50**

For New House Car projects: Supplemental Benefit overtime hours: **\$48.85**

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).

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CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

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

Employees must work at least one day in the payroll week in which the holiday occurs to receive the paid holiday

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)

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: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$54.75**

Supplemental Benefit Rate per Hour: **\$47.13**

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

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CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

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: 7/1/2021 - 1/30/2022

Wage Rate per Hour: **\$46.55**

Supplemental Benefit Rate per Hour: **\$47.74**

Supplemental Note: Supplemental Benefit Overtime Rate: \$71.62

Effective Period: 1/31/2022 - 6/30/2022

Wage Rate per Hour: **\$46.55**

Supplemental Benefit Rate per Hour: **\$48.94**

Supplemental Note: Supplemental Benefit Overtime Rate: \$73.43

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

Thanksgiving Day

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

Day after Thanksgiving
Christmas Day

Paid Holidays

None

Shift Rates

Shifts shall be any 8 consecutive hours after the normal working day for which the Glazier shall receive 9 hours pay for 8 hours worked.

(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, Residential glass replacement, Residential mirrors and shower doors, Storm windows and storm doors, Residential replacement windows, Herculite door repairs, Door closer repairs, Retrofit apartment house (non-commercial buildings), Glass tinting.

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$26.40**

Supplemental Benefit Rate per Hour: **\$24.09**

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 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: 7/1/2021 - 1/30/2022

Wage Rate per Hour: **\$38.05**

Supplemental Benefit Rate per Hour: **\$17.75**

Effective Period: 1/31/2022 - 6/30/2022

Wage Rate per Hour: **\$38.05**

Supplemental Benefit Rate per Hour: **\$19.10**

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

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$62.21**

Supplemental Benefit Rate per Hour: **\$41.91**

Overtime Description

Double time shall be paid for supplemental benefits during overtime work.

8th hour paid at time and one half.

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

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

**OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE**

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: 7/1/2021 - 1/30/2022

Wage Rate per Hour: \$37.63

Supplemental Benefit Rate per Hour: \$30.37

Effective Period: 1/31/2022 - 6/30/2022

Wage Rate per Hour: \$38.23

Supplemental Benefit Rate per Hour: \$30.97

House Wrecker - Tier B

Effective Period: 7/1/2021 - 1/30/2022

Wage Rate per Hour: \$26.86

Supplemental Benefit Rate per Hour: \$22.78

Effective Period: 1/31/2022 - 6/30/2022

Wage Rate per Hour: \$27.46

Supplemental Benefit Rate per Hour: \$23.38

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

**OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE**

Effective Period: 7/1/2021 - 1/30/2022

Wage Rate per Hour: \$46.15

Supplemental Benefit Rate per Hour: \$59.62

Supplemental Note: Supplemental benefits are to be paid at the applicable overtime rate when overtime is in effect.

Effective Period: 1/31/2022 - 6/30/2022

Wage Rate per Hour: \$46.40

Supplemental Benefit Rate per Hour: \$60.62

Supplemental Note: Supplemental benefits are to be paid at the applicable overtime rate when overtime is in effect.

Overtime Description

Time and one half the regular rate after a 7 hour day for a maximum of two hours on any regular work day (the 8th and 9th hour) and double time shall be paid for all work on a regular work day thereafter, time and one half the regular rate for Saturday for the first seven hours of work and double time shall be paid for all work on a Saturday thereafter.

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, the second and third shift are paid eight and one half (8 ½) hours at the straight time rate for seven (7) hours of work, and ten (10) hours at the straight time rate for eight (8) hours of work. 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, and all overtime shall be paid at time and one-half the regular straight time rates but on 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

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

Iron Worker - Structural

Effective Period: 7/1/2021 - 1/30/2022

Wage Rate per Hour: **\$54.20**

Supplemental Benefit Rate per Hour: **\$82.81**

Supplemental Note: Supplemental benefits are to be paid at the applicable overtime rate when overtime is in effect.

Effective Period: 1/31/2022 - 6/30/2022

Wage Rate per Hour: **\$54.95**

Supplemental Benefit Rate per Hour: **\$83.80**

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

(Foundation, Concrete, Excavating, Street Pipe Layer and Common)

Laborer

Excavation and foundation work for buildings, heavy construction, 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.

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$43.50**

Supplemental Benefit Rate per Hour: **\$48.63**

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)

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: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$33.90**

Supplemental Benefit Rate per Hour: **\$17.05**

Landscaper (Year 3 - 5)

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$32.81**

Supplemental Benefit Rate per Hour: **\$17.05**

Landscaper (up to 3 years)

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$30.06**

Supplemental Benefit Rate per Hour: **\$17.05**

Groundperson

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$30.06**

Supplemental Benefit Rate per Hour: **\$17.05**

Tree Remover / Pruner

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$39.42**

Supplemental Benefit Rate per Hour: **\$17.05**

Landscaper Sprayer (Pesticide Applicator)

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$28.41**

Supplemental Benefit Rate per Hour: **\$17.05**

Watering - Plant Maintainer

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$22.88**

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

Supplemental Benefit Rate per Hour: **\$17.05**

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: 7/1/2021 - 1/30/2022

Wage Rate per Hour: **\$56.73**

Supplemental Benefit Rate per Hour: **\$41.76**

Effective Period: 1/31/2022 - 6/30/2022

Wage Rate per Hour: **\$57.17**

Supplemental Benefit Rate per Hour: **\$42.26**

Marble Finisher

Effective Period: 7/1/2021 - 1/30/2022

Wage Rate per Hour: **\$44.32**

Supplemental Benefit Rate per Hour: **\$38.96**

Effective Period: 1/31/2022 - 6/30/2022

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

Wage Rate per Hour: **\$44.42**

Supplemental Benefit Rate per Hour: **\$39.46**

Marble Polisher

Effective Period: 7/1/2021 - 1/30/2022

Wage Rate per Hour: **\$42.91**

Supplemental Benefit Rate per Hour: **\$31.61**

Effective Period: 1/31/2022 - 6/30/2022

Wage Rate per Hour: **\$43.35**

Supplemental Benefit Rate per Hour: **\$32.26**

Marble Maintenance Finisher

Effective Period: 7/1/2021 - 1/30/2022

Wage Rate per Hour: **\$26.73**

Supplemental Benefit Rate per Hour: **\$13.59**

Effective Period: 1/31/2022 - 6/30/2022

Wage Rate per Hour: **\$27.01**

Supplemental Benefit Rate per Hour: **\$13.99**

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

Mason Tender

Effective Period: 7/1/2021 - 1/30/2022

Wage Rate per Hour: **\$39.20**

Supplemental Benefit Rate per Hour: **\$31.24**

Effective Period: 1/31/2022 - 6/30/2022

Wage Rate per Hour: **\$39.95**

Supplemental Benefit Rate per Hour: **\$31.99**

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: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$37.29**

Supplemental Benefit Rate per Hour: **\$25.75**

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: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$26.48**

Supplemental Benefit Rate per Hour: **\$20.07**

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: 7/1/2021 - 6/30/2022

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

Wage Rate per Hour: **\$46.40**

Supplemental Benefit Rate per Hour: **\$49.80**

Supplemental Note: For time and one half overtime - \$61.55 For double overtime - \$77.10

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.

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: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$57.00**

Supplemental Benefit Rate per Hour: **\$54.76**

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

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

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: 7/1/2021 - 1/30/2022

Wage Rate per Hour: **\$51.66**

Supplemental Benefit Rate per Hour: **\$43.67**

Effective Period: 1/31/2022 - 6/30/2022

Wage Rate per Hour: **\$52.21**

Supplemental Benefit Rate per Hour: **\$43.97**

Mosaic Mechanic - Mosaic & Terrazzo Finisher

Effective Period: 7/1/2021 - 1/30/2022

Wage Rate per Hour: **\$50.06**

Supplemental Benefit Rate per Hour: **\$43.67**

Effective Period: 1/31/2022 - 6/30/2022

Wage Rate per Hour: **\$50.60**

Supplemental Benefit Rate per Hour: **\$43.97**

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

Mosaic Mechanic - Machine Operator Grinder

Effective Period: 7/1/2021 - 1/30/2022

Wage Rate per Hour: **\$50.06**

Supplemental Benefit Rate per Hour: **\$43.67**

Effective Period: 1/31/2022 - 6/30/2022

Wage Rate per Hour: **\$50.60**

Supplemental Benefit Rate per Hour: **\$43.97**

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

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: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$43.00**

Supplemental Benefit Rate per Hour: **\$36.70**

Supplemental Note: \$43.79 on overtime

Spray & Scaffold / Decorative / Sandblast

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$46.00**

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

Supplemental Benefit Rate per Hour: **\$36.70**

Supplemental Note: \$43.79 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

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

Thanksgiving Day

Christmas Day

Paid Holidays

None

(District Council of Painters #9)

PAINTER - LINE STRIPING (ROADWAY)

Striping - Machine Operator

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$37.00**

Supplemental Benefit Rate per Hour: **\$14.37**

Supplemental Note: Overtime Supplemental Benefit rate - \$16.25

Lineperson (Thermoplastic)

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$41.00**

Supplemental Benefit Rate per Hour: **\$14.37**

Supplemental Note: Overtime Supplemental Benefit rate - \$16.25

Striping Assistant & Traffic Safety

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$36.75**

Supplemental Benefit Rate per Hour: **\$14.37**

Supplemental Note: Overtime Supplemental Benefit rate - \$16.25

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

Overtime Description

Time and one half the regular rate for all work in excess of ten (10) straight time hours per day and in excess of forty (40) straight time hours per week.

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 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

Vacation

Employees with one to two years service shall accrue vacation based on hours worked: 250 hours worked - 1 day vacation; 500 hours worked - 2 days vacation; 750 hours worked - 3 days vacation; 900 hours worked - 4 days vacation; 1,000 hours worked - 5 days vacation. Employees with two to five years service receive two weeks vacation. Employees with five to twenty years service receive three weeks vacation. Employees with twenty to twenty-five years service receive four weeks vacation. Employees with 25 or more years service receive five weeks vacation.

(Local #1010)

PAINTER - METAL POLISHER

METAL POLISHER

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$31.88**

Supplemental Benefit Rate per Hour: **\$10.29**

METAL POLISHER - NEW CONSTRUCTION

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$32.83**

Supplemental Benefit Rate per Hour: **\$10.29**

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

METAL POLISHER - SCAFFOLD OVER 34 FEET

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$35.38**

Supplemental Benefit Rate per Hour: **\$10.29**

ASSISTANT METAL POLISHER

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$24.66**

Supplemental Benefit Rate per Hour: **\$9.81**

ASSISTANT METAL POLISHER - NEW CONSTRUCTION

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$25.41**

Supplemental Benefit Rate per Hour: **\$9.81**

ASSISTANT METAL POLISHER - SCAFFOLD OVER 34 FEET

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$27.16**

Supplemental Benefit Rate per Hour: **\$9.81**

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.

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.

Triple time 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

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

Shift Rates

Four Days a week at Ten (10) hours straight a day.

Local 8A-28A

PAINTER - SIGN

Sign Painter

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$44.32**

Supplemental Benefit Rate per Hour: **\$21.70**

Assistant Sign Painter

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$37.66**

Supplemental Benefit Rate per Hour: **\$19.93**

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

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

(Local #8A-28A)

PAINTER - STRUCTURAL STEEL

Painters on Structural Steel

Effective Period: 7/1/2021 - 9/30/2021

Wage Rate per Hour: **\$51.50**

Supplemental Benefit Rate per Hour: **\$48.28**

Effective Period: 10/1/2021 - 6/30/2022

Wage Rate per Hour: **\$53.00**

Supplemental Benefit Rate per Hour: **\$49.83**

Painter - Power Tool

Effective Period: 7/1/2021 - 9/30/2021

Wage Rate per Hour: **\$57.50**

Supplemental Benefit Rate per Hour: **\$48.28**

Overtime Wage Rate: \$6.00 above the "Painters on Structural Steel" overtime rate.

Effective Period: 10/1/2021 - 6/30/2022

Wage Rate per Hour: **\$59.50**

Supplemental Benefit Rate per Hour: **\$49.83**

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 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

Memorial Day

Independence Day

Labor Day

Thanksgiving Day

Christmas Day

Paid Holidays

None

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

Shift Rates

Second shift is paid at regular hourly wage rates plus a ten percent (10%) differential. There must be a first shift in order to work a second shift.

(Local #806)

PAPERHANGER

Paperhanger

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$46.87**

Supplemental Benefit Rate per Hour: **\$37.49**

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.

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

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

Paver & Roadbuilder - Formsetter

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$47.85**

Supplemental Benefit Rate per Hour: **\$48.51**

Supplemental Note: For time and one half overtime - \$52.64 For double overtime - \$56.76

Paver & Roadbuilder - Laborer

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.

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$43.98**

Supplemental Benefit Rate per Hour: **\$48.51**

Supplemental Note: For time and one half overtime - \$52.64 For double overtime - \$56.76

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: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$48.45**

Supplemental Benefit Rate per Hour: **\$48.51**

Supplemental Note: For time and one half overtime - \$52.64 For double overtime - \$56.76

Production Paver & Roadbuilder - Raker

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$47.85**

Supplemental Benefit Rate per Hour: **\$48.51**

Supplemental Note: For time and one half overtime - \$52.64 For double overtime - \$56.76

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: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$43.98**

Supplemental Benefit Rate per Hour: **\$48.51**

**OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE**

Supplemental Note: For time and one half overtime - \$52.64 For double overtime - \$56.76

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.

Night Work - On night work, the first eight (8) hours of work will be paid for at the single time rate, except that production paving work shall be paid at 10% over the single time rate for the screed person, rakers and shovelers directly involved only. This differential is to be paid when there is only one shift and the shift works at night. All other workers will be exempt. Hours worked over eight (8) hours during said shift shall be paid for at the time and one-half rate.

(Local #1010)

PLASTERER

Plasterer

Effective Period: 7/1/2021 - 7/31/2021

Wage Rate per Hour: **\$45.73**

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

Supplemental Benefit Rate per Hour: **\$30.37**

Effective Period: 8/1/2021 - 6/30/2022

Wage Rate per Hour: **\$46.00**

Supplemental Benefit Rate per Hour: **\$28.20**

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: 7/1/2021 - 1/30/2022

Wage Rate per Hour: **\$39.20**

Supplemental Benefit Rate per Hour: **\$31.24**

Effective Period: 1/31/2022 - 6/30/2022

Wage Rate per Hour: **\$39.95**

Supplemental Benefit Rate per Hour: **\$31.99**

Overtime

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

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: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$71.25**

Supplemental Benefit Rate per Hour: **\$39.95**

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: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$57.08**

Supplemental Benefit Rate per Hour: **\$31.88**

Overtime

Double time the regular rate after an 8 hour day.

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

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 (MECHANICAL EQUIPMENT AND SERVICE)

(Mechanical Equipment and Service work shall include any repair and/or replacement of the present plumbing system.)

Plumber

Effective Period: 7/1/2021 - 1/30/2022

Wage Rate per Hour: **\$44.37**

Supplemental Benefit Rate per Hour: **\$18.31**

Effective Period: 1/31/2022 - 6/30/2022

Wage Rate per Hour: **\$46.60**

Supplemental Benefit Rate per Hour: **\$19.96**

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

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

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: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$49.47**

Supplemental Benefit Rate per Hour: **\$28.68**

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: 7/1/2021 - 1/30/2022

Wage Rate per Hour: **\$69.33**

Supplemental Benefit Rate per Hour: **\$27.98**

Effective Period: 1/31/2022 - 6/30/2022

Wage Rate per Hour: **\$69.73**

Supplemental Benefit Rate per Hour: **\$28.48**

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)

Journey person

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$56.77**

Supplemental Benefit Rate per Hour: **\$29.91**

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.

(Bricklayer District Council)

ROOFER

Roofer

Effective Period: 7/1/2021 - 1/30/2022

Wage Rate per Hour: **\$44.25**

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

Supplemental Benefit Rate per Hour: **\$34.81**

Effective Period: 1/31/2022 - 6/30/2022

Wage Rate per Hour: **\$45.25**

Supplemental Benefit Rate per Hour: **\$35.56**

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: 7/1/2021 - 1/30/2022

Wage Rate per Hour: **\$51.36**

Supplemental Benefit Rate per Hour: **\$53.34**

Supplemental Note: Supplemental benefit contributions are to be made at the applicable overtime rates.

Effective Period: 1/31/2022 - 6/30/2022

Wage Rate per Hour: **\$52.10**

Supplemental Benefit Rate per Hour: **\$55.18**

Supplemental Note: Supplemental benefit contributions are to be made at the applicable overtime rates.

Sheet Metal Worker - Fan Maintenance

**OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE**

(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: 7/1/2021 - 1/30/2022

Wage Rate per Hour: \$41.09

Supplemental Benefit Rate per Hour: \$53.34

Effective Period: 1/31/2022 - 6/30/2022

Wage Rate per Hour: \$41.68

Supplemental Benefit Rate per Hour: \$55.18

Sheet Metal Worker - Duct Cleaner

Effective Period: 7/1/2021 - 1/30/2022

Wage Rate per Hour: \$18.49

Supplemental Benefit Rate per Hour: \$11.94

Effective Period: 1/31/2022 - 6/30/2022

Wage Rate per Hour: \$19.12

Supplemental Benefit Rate per Hour: \$12.01

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

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.

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

(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: 7/1/2021 - 1/30/2022

Wage Rate per Hour: **\$48.18**

Supplemental Benefit Rate per Hour: **\$26.87**

Supplemental Note: Supplemental benefit contributions are to be made at the applicable overtime rates.

Effective Period: 1/31/2022 - 6/30/2022

Wage Rate per Hour: **\$49.05**

Supplemental Benefit Rate per Hour: **\$27.76**

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: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$28.50**

Supplemental Benefit Rate per Hour: **\$3.95**

Shipyard Mechanic - Second Class

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$19.07**

Supplemental Benefit Rate per Hour: **\$3.59**

Shipyard Laborer - First Class

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$23.40**

Supplemental Benefit Rate per Hour: **\$3.75**

Shipyard Laborer - Second Class

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$17.38**

Supplemental Benefit Rate per Hour: **\$3.52**

Shipyard Dockhand - First Class

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$21.57**

Supplemental Benefit Rate per Hour: **\$3.68**

Shipyard Dockhand - Second Class

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$17.28**

Supplemental Benefit Rate per Hour: **\$3.52**

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.

**OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE**

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: 7/1/2021 - 1/30/2022

Wage Rate per Hour: **\$52.29**

Supplemental Benefit Rate per Hour: **\$57.49**

Effective Period: 1/31/2022 - 6/30/2022

Wage Rate per Hour: **\$53.79**

Supplemental Benefit Rate per Hour: **\$59.56**

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.

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

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

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: 7/1/2021 - 1/30/2022

Wage Rate per Hour: **\$59.05**

Supplemental Benefit Rate per Hour: **\$58.14**

Supplemental Note: Overtime supplemental benefit rate: \$115.54

Effective Period: 1/31/2022 - 6/30/2022

Wage Rate per Hour: **\$60.80**

Supplemental Benefit Rate per Hour: **\$58.14**

Supplemental Note: Overtime supplemental benefit rate: \$115.54

Steamfitter -Temporary Services

Effective Period: 7/1/2021 - 1/30/2022

Wage Rate per Hour: **\$44.88**

Supplemental Benefit Rate per Hour: **\$47.31**

Effective Period: 1/31/2022 - 6/30/2022

Wage Rate per Hour: **\$46.21**

Supplemental Benefit Rate per Hour: **\$47.31**

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

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

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: 7/1/2021 - 1/30/2022

Wage Rate per Hour: **\$42.85**

Supplemental Benefit Rate per Hour: **\$19.46**

Effective Period: 1/31/2022 - 6/30/2022

Wage Rate per Hour: **\$43.60**

Supplemental Benefit Rate per Hour: **\$19.71**

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).

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

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: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$56.43**

Supplemental Benefit Rate per Hour: **\$48.52**

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.

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

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: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$48.47**

Supplemental Benefit Rate per Hour: **\$29.06**

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 the following holiday(s).

New Year's Day

Martin Luther King Jr. Day

President's Day

Good Friday

Memorial Day

Independence Day

Labor Day

Columbus 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.

(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: 7/1/2021 - 6/30/2022

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.

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

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: 7/1/2021 - 1/30/2022

Wage Rate per Hour: **\$43.71**

Supplemental Benefit Rate per Hour: **\$35.10**

Effective Period: 1/31/2022 - 6/30/2022

Wage Rate per Hour: **\$44.06**

Supplemental Benefit Rate per Hour: **\$35.31**

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
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.

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

(Local #7)

TILE LAYER - SETTER

Tile Layer - Setter

Effective Period: 7/1/2021 - 1/30/2022

Wage Rate per Hour: **\$56.42**

Supplemental Benefit Rate per Hour: **\$39.75**

Effective Period: 1/31/2022 - 6/30/2022

Wage Rate per Hour: **\$57.04**

Supplemental Benefit Rate per Hour: **\$39.76**

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

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 ($1\frac{1}{4}$) times the regular straight time rate of pay for the seven hours of actual off-shift work.

(Local #7)

TIMBERPERSON

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

Timberperson

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$52.05**

Supplemental Benefit Rate per Hour: **\$52.94**

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 #1536)

TUNNEL WORKER

Blasters, Mucking Machine Operators (Compressed Air Rates)

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$68.58**

Supplemental Benefit Rate per Hour: **\$60.19**

Tunnel Workers (Compressed Air Rates)

Includes shield driven liner plate portions or solidification portions work (8 hour shift) during excavation phase.

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$66.14**

Supplemental Benefit Rate per Hour: **\$58.29**

Top Nipper (Compressed Air Rates)

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$65.04**

Supplemental Benefit Rate per Hour: **\$57.14**

Outside Lock Tender, Outside Gauge Tender, Muck Lock Tender (Compressed Air Rates)

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$63.74**

Supplemental Benefit Rate per Hour: **\$56.20**

Bottom Bell & Top Bell Signal Person: Shaft Person (Compressed Air Rates)

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$63.74**

Supplemental Benefit Rate per Hour: **\$56.20**

Changehouse Attendant: Powder Watchperson (Compressed Air Rates)

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$56.04**

Supplemental Benefit Rate per Hour: **\$52.83**

Blasters (Free Air Rates)

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$65.41**

Supplemental Benefit Rate per Hour: **\$57.80**

Tunnel Workers (Free Air Rates)

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$62.58**

Supplemental Benefit Rate per Hour: **\$55.38**

All Others (Free Air Rates)

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$57.84**

Supplemental Benefit Rate per Hour: **\$51.26**

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

Microtunneling (Free Air Rates)

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$50.06**

Supplemental Benefit Rate per Hour: **\$44.30**

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 7 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

Lincoln's Birthday

President's Day

Memorial Day

Independence Day

Labor Day

Columbus Day

Election Day

Veteran's Day

Thanksgiving Day

Christmas Day

(Local #147)

UTILITY LOCATOR

(Locate & mark underground utilities for street excavation.)

Utility Locator (Year 7 and above)

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$31.56**

Supplemental Benefit Rate per Hour: **\$1.43**

Utility Locator (Year 5 - 6)

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$22.85**

Supplemental Benefit Rate per Hour: **\$1.43**

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

Utility Locator (Year 4)

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$21.54**

Supplemental Benefit Rate per Hour: **\$1.43**

Utility Locator (Year 3)

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$20.30**

Supplemental Benefit Rate per Hour: **\$1.43**

Utility Locator (Year 2)

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$19.13**

Supplemental Benefit Rate per Hour: **\$1.43**

Utility Locator (Year 1)

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$18.04**

Supplemental Benefit Rate per Hour: **\$1.43**

Utility Locator (Up to 1 year)

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **\$17.00**

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

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

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

**TO BE PAID AT THE RATE OF THE JOURNEYPERSON IN THE TRADE
PERFORMING THE WORK.**



**Department of
Design and
Construction**

Issue Date: January 1, 2022

**DDC STANDARD GENERAL CONDITIONS
FOR SINGLE CONTRACT PROJECTS**



**Department of
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Construction**

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**SECTION 01 10 00
SUMMARY**

PART 1 – GENERAL

1.1 RELATED DOCUMENTS:

- A. The following documents apply to all required work for the Project: (1) the Contract Drawings, (2) the Specifications, (3) the General Conditions, (4) the Addendum, and (5) the Contract [City of New York Standard Construction Contract].
- B. Addendum to the General Conditions: These General Conditions include and are supplemented by the Addendum to the General Conditions (the "Addendum"). The Addendum includes the following: (1) schedules referred to in these General Conditions, (2) information regarding the applicability of various articles, and (3) amended articles, if any.

1.2 SUMMARY:

- A. This section includes the following:
 - 1. Scope and Intent
 - 2. Provisions Referenced in the Contract
 - 3. Performance of Work During Non-Regular Work Hours (Pursuant to a Change Order)
 - 4. Interruption of Services at Existing Facilities

1.3 DEFINITIONS:

- A. Refer to Article 2 of the Contract for definition of terms, words and expressions used in the General Conditions not otherwise defined herein.
- B. Design Consultant: "Design Consultant" means 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.

1.4 SCOPE AND INTENT:

- A. Description of Project: Refer to the Addendum for a description of the Project.

REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 1.4 B

- B. LEED: The City of New York will seek U.S. Green Building Council (USGBC) LEED (Leadership in Energy and Environmental Design) certification for this Project as specified in Section 01 81 13.03 "SUSTAINABLE DESIGN REQUIREMENTS FOR LEED v3 BUILDINGS"; or Section 01 81 13.04 "SUSTAINABLE DESIGN REQUIREMENTS FOR LEED v4 BUILDINGS", and the Addendum to the General Conditions.



REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 1.4 C

- C. COMMISSIONING: The Project will be commissioned by an independent third party under separate contract with the City of New York. Commissioning must be in accordance with ASHRAE and USGBC LEED-NC procedures, as described in Section 01 91 13 GENERAL COMMISSIONING REQUIREMENTS FOR MEP SYSTEMS, and/ or Section 01 91 15 GENERAL COMMISSIONING REQUIREMENTS FOR BUILDING ENCLOSURE and the Addendum to the General Conditions. The Contractor must cooperate with the commissioning agent and provide whatever assistance is required.

REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 1.4 D

- D. PROGRESS SCHEDULE: Refer to Section 01 32 16.1 PROGRESS SCHEDULES (METHOD A) or 01 32 16.2 PROGRESS SCHEDULES (METHOD B) or 01 32 16.3 PROGRESS SCHEDULES (METHOD C) and the Addendum to the General Conditions for requirements of the Project.
- E. COMPLETION OF WORK: Work to be done under the Contract is comprised of the furnishing of all labor, materials, equipment and other appurtenances, and obtaining all regulatory agency approvals necessary and required to complete the construction work in accordance with the Contract.
- F. OMISSION OF DETAILS: All work called for in the Specifications applicable to the Contract but not shown on the Contract Drawings in their present form, or vice versa, is required, and must be performed by the Contractor as though it were originally delineated or described. The cost of such work will be deemed included in the total Contract Price.
- G. WORK NOT IN SPECIFICATIONS OR CONTRACT DRAWINGS: Work not particularly specified in the Specifications nor detailed on the Contract Drawings but involved in carrying out their intent or in the complete and proper execution of the Work, is required, and must be performed by the Contractor. The cost of such work will be deemed included in the total Contract Price.
- H. SILENCE OF THE SPECIFICATIONS: The apparent silence of the Specifications as to any detail, or the apparent omission from them of a detailed description concerning any work to be done and materials to be furnished, will be regarded as meaning that only the best practice is to prevail and that only the best material and workmanship is to be used and interpretation of the Specifications will be made upon that basis.
- I. CONFLICT BETWEEN CONTRACT DRAWINGS AND SPECIFICATIONS: Should any conflict occur in or between the Drawings and Specifications, the Contractor will be deemed to have estimated the most expensive way of doing the Work unless the Contractor asked for and obtained a decision in writing from the Commissioner before the submission of the bid as to what must govern.

1.5 CONTRACT DRAWINGS AND SPECIFICATIONS:

- A. SCHEDULE C - The Contract Drawings are listed in Schedule C, which is set forth in the Addendum. Such drawings referred to in the Contract, and in the applicable Specifications for the Contract, bear the general title:
- City of New York
Department of Design and Construction
Division of Public Buildings
- B. DOCUMENTS FURNISHED TO THE CONTRACTOR - After the award of the Contract, the Contractor will be furnished with five (5) complete sets of paper prints of all Contract Drawings mentioned in Paragraph A above, as well as a copy of the Specifications.
- C. ADDITIONAL COPIES of Drawings and Specifications, when requested, will be furnished to the Contractor if available.



- D. **SUPPLEMENTARY DRAWINGS** - When, in the opinion of the Commissioner, it becomes necessary to more fully explain the work to be done, or to illustrate the work further, or to show any changes which may be required, drawings known as Supplementary Drawings will be prepared by the Commissioner.
- E. **COMPENSATION** - Where Supplementary Drawings entail extra work, compensation therefore to the Contractor will be subject to the terms of the Contract. The Supplementary Drawings will be binding upon the Contractor with the same force as the Contract Drawings.
- F. **SUPPLEMENTARY DRAWING PRINTS** - Three (3) copies of prints of these Supplementary Drawings will be furnished to the Contractor.
- G. **COPIES TO SUBCONTRACTORS** - The Contractor must furnish each of its subcontractors and material suppliers such copies of Contract Drawings, Supplementary Drawings, or copies of the Specifications as may be required for its work.

1.6 COORDINATION:

- A. **COORDINATION AND COOPERATION** - The Contractor must consult and study the requirements of the Contract Drawings and Specifications for all required work, including all work to be performed by trade subcontractors, so that the Contractor may become acquainted with the work of the Project as a whole in order to achieve the proper coordination and cooperation necessary for the efficient and timely performance of the work.
- B. **CONTRACTOR TO CHECK DRAWINGS:** - The Contractor must verify all dimensions, quantities and details shown on the Contract Drawings, Schedules, or other data received from the Commissioner, and must notify the Commissioner of all errors, omissions, conflicts and discrepancies found therein. Notice of such errors will be given before the Contractor proceeds with any work. Figures must be used in preference to scale dimensions and large-scale drawings in preference to small-scale drawings.

1.7 SHOP DRAWINGS AND RECORD DRAWINGS:

- A. Refer to Section 01 33 00 SUBMITTAL PROCEDURES and Section 01 78 39 CONTRACT RECORD DOCUMENTS for requirements applicable to shop drawings and record drawings.

1.8 TEMPORARY FACILITIES, SERVICES AND CONTROLS:

- A. Refer to Section 01 50 00 TEMPORARY FACILITIES SERVICES AND CONTROLS for the responsibilities of the Contractor.

1.9 DUST CONTROL:

- A. The Contractor must prepare, execute and manage a "Dust Control Plan" for the prevention of the emission of dust from construction related activities in compliance with 15 RCNY 13-01 et. seq.

1.10 PROVISIONS REFERENCED IN THE CONTRACT:

- A. **SCHEDULE A** - Various Articles of the Contract refer to requirements set forth in Schedule A of the General Conditions. Schedule A, which is included in the Addendum, sets forth (1) the referenced Articles of the Contract, and (2) the specific requirements applicable to the Contract.
- B. **EXTENSION OF TIME** - Applications for Extensions of Time, as indicated in Article 13 of the Contract, must be made in accordance with the Rules of the Procurement Policy Board.



- C. PARTIAL PAYMENTS FOR MATERIALS IN ADVANCE OF THEIR INCORPORATION IN THE WORK PURSUANT TO ARTICLE 42 OF THE CONTRACT – In order to better ensure the availability of materials, fixtures and equipment when needed for the work, the Commissioner may authorize partial payment for certain materials, fixtures and equipment, prior to their incorporation in the work, but only in strict accordance with, and subject to, all the terms and conditions set forth in the Specifications, unless an alternate method of payment is elsewhere provided in the Specifications for specified materials, fixtures or equipment.
1. The Contractor must submit to the Commissioner a written request, in quadruplicate, for payment for materials purchased or to be purchased for which the Contractor needs to be paid prior to their actual incorporation in the work. The request must be accompanied by a schedule of the types and quantities of materials, and must state whether such materials are to be stored on or off the site.
 2. Where the materials are to be stored off the site, they must be stored at a place other than the Contractor's premises (except with the written consent of the Commissioner) and under the conditions prescribed or approved by the Commissioner. The Contractor must set apart and separately store at the place or places of storage all materials and must clearly mark same "PROPERTY OF THE CITY OF NEW YORK", and further, must not at any time move any of said materials to another off-site place of storage without the prior written consent of the Commissioner. Materials may be removed from their place of storage off the site for incorporation in the work upon approval of the Resident Engineer.
 3. Where the materials are to be stored at the site, they must be stored at such locations as will be designated by the Resident Engineer and only in such quantities as, in the opinion of the Resident Engineer, will not interfere with the proper performance of the Work by the Contractor or by other Contractors then engaged in performing work on the site. Such materials must not be removed from their place of storage on the site except for incorporation in the Work, without the approval of the Resident Engineer.
 4. INSURANCE
 - a. STORAGE OFF-SITE – Where the materials are stored off the site and until such time as they are incorporated in the Work, the Contractor must fully insure such materials against any and all risks of destruction, damage or loss including but not limited to fire, theft, and any other casualty or happening. The policy of insurance must be payable to the City of New York. It must be in such terms and amounts as must be approved by the Commissioner and must be placed with a company duly licensed to do business in the State of New York. The Contractor must deliver the original and one (1) copy of such policy or policies marked "Fully Paid" to the Commissioner.
 - b. STORAGE ON THE SITE – Where the materials are stored at the site, the Contractor must furnish satisfactory evidence to the Commissioner that they are properly insured against loss, by endorsements or otherwise, under the policy or policies of insurance obtained by the Contractor to cover losses to materials owned or installed by the Contractor. The policy of insurance must cover fire and extended coverage against windstorm, hail, explosion and riot attending a strike, civil commotion, aircraft, vehicles and smoke.
 5. All costs, charges and expenses arising out of the storage of such materials, must be paid by the Contractor and the City hereby reserves the right to retain out of any partial or final payment made under the Contract an amount sufficient to cover such costs, charges and expenses with the understanding that the City will have and may exercise any and all other remedies at law for the recovery of such cost, charges and expenses. There will be no increase in the Contract price for such costs, charges and expenses and the Contractor must not make any claim or demand for compensation therefore.



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6. The Contractor must pay any and all costs of handling and delivery of materials, to the place of storage and from the place of storage to the site of the Work; and the City will have the right to retain from any partial or final payment an amount sufficient to cover the cost of such handling and delivery.
7. In the event that the whole or any part of these materials are lost, damaged, or destroyed in advance of their satisfactory incorporation in the work, the Contractor, at the Contractor's own cost, must replace such lost, damaged or destroyed materials of the same character and quality. The City will reimburse the Contractor for the cost of the replaced materials to the extent, and only to the extent, of the funds actually received by the City under the policies of insurance hereinbefore referred to. Until such time as the materials are replaced, the City will deduct from the value of the stored materials or from any other money due under the Contract, the amount paid to the Contractor for such lost, damaged or destroyed materials.
8. Should any of the materials paid for the City hereunder be subsequently rejected or incorporated in the work in a manner or by a method not in accordance with the Contract Documents, the Contractor must remove and replace, at Contractor's own cost, such defective or improperly incorporated material with materials complying with the Contract Documents. Until such materials are replaced, the City will deduct from the value of the stored materials or from any other money due the Contractor, the amount paid by the City for such rejected or improperly incorporated materials.
9. Payments for the cost of materials made hereunder will not be deemed to be an acceptance of such materials as being in accordance with the Contract Documents, and the Contractor always retains and must comply with the Contractor's duty to deliver to the site and properly incorporate in the work only materials which comply with the Contract Documents.
10. The Contractor must retain any and all risks in connection with the damage, destruction, or loss of the materials paid for hereunder to the time of delivery of the same to the site of the Work and their proper incorporation in the work in accordance with the Contract Documents.
11. The Contractor must comply with all laws and the regulations of any governmental body or agency pertaining to the priority purchase, allocation, and use of the materials.
12. When requesting payment for such materials, the Contractor must submit with the partial estimate duly authenticated documents of title, such as bills of sale, invoices or warehouse receipts, all in quadruplicate. The executed bills of sale must transfer title to the materials from the Contractor to the City. (In the event that the invoices state that the material has been purchased by a subcontractor, bills of sale in quadruplicate will also be required transferring title to the materials from subcontractor to the Contractor).
13. Where the Contractor, with the approval of the Commissioner, has purchased unusually large quantities of materials in order to assure their availability for the work, the Commissioner, at the Commissioner's option, may waive the requirements of Paragraph 12 provided the Contractor furnishes evidence in the form of an affidavit from the Contractor in quadruplicate, and such other proof as the Commissioner may require, that the Contractor is the sole owner of such materials and has purchased them free and clear of all liens and other encumbrances. In such event, the Contractor will pay for such materials and submit proof thereof, in the same manner as provided in Paragraph 12 hereof, within seven (7) days after receipt of payment therefore from the Comptroller. Failure on the part of the Contractor to submit satisfactory evidence that all such materials have been paid for in full, will preclude the Contractor from payments under the Contract.
14. The Contractor must include in each succeeding partial estimate requisition a summary of materials stored which must set forth the quantity and value of materials in storage, on or off the site, at the end of each preceding estimate period; the amount removed for incorporation in the



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Work; the quantity and value of materials delivered during the current period and the total value of materials on hand for which payment thereof will be included in the current payment estimate.

15. Upon proof to the satisfaction of the Commissioner of the actual cost of such materials and upon submission of proper proof of title as required under Paragraph 12 or Paragraph 13 hereof, payment will be made therefore to the extent of 85%, provided however, that the cost so verified, established and approved must not exceed the estimated cost of such materials included in the approved detailed breakdown estimate submitted in accordance with Article 41 of the Contract; if it does, the City will pay only 85% approved estimated cost.
16. Upon the incorporation in the Work of any such materials, which have been paid for in advance of such incorporation in accordance with the foregoing provisions, payment will be made for such materials incorporated in the Work pursuant to Article 42 of the Contract, less any sums paid pursuant to Paragraph 15 herein.

- D. **MOBILIZATION PAYMENT** – A line item for mobilization must be allowed on the Contractor's Detailed Bid Breakdown submitted in accordance with Article 41 of the Contract. The Mobilization Payment is intended to include the cost of required bonds, insurance coverage, and/or any other expenses required for the initiation of the Contract Work. All costs for mobilization will be deemed included in the total Contract Price. The Detailed Bid Breakdown must reflect, and the Mobilization Payment will be made, in accordance with the following schedule:

Contract Amount	Mobilization Amount
Less than \$50,000	\$0 (No Mobilization Payment)
\$50,001 to \$100,000	Fixed Amount = \$6,000
\$100,001 to \$500,000	6% of Contract Amount
\$500,001 to \$ 2,500,000	5% of Contract Amount
Over \$2,500,000	Lesser of 4% of Contract Amount or \$300,000

The Contractor may requisition for the Mobilization Payment upon satisfactory completion of the following:

1. Installation of any required field office(s);
2. Submission of all required insurance certificates and bond;
3. Approval of the Site Safety Plan per the Safety Requirements Section of the Information for Bidders;
4. Approval of the Progress Schedule;
5. Approval of the Schedule Submittal; and,
6. Submission of the Pre-Construction Photographs.

- E. **ULTRA LOW SULFUR DIESEL FUEL AND BEST AVAILABLE TECHNOLOGY REPORTING:** The Contractor must submit reports to the Commissioner regarding the use of Ultra Low Sulfur Diesel Fuel in Non-Road Vehicles, and the implementation of Best Available Technology (BAT), as set forth in Article 5.4 of the Contract. Such reports must be submitted in accordance with the schedule, format, directions, and procedures established by the Commissioner.



1.11 PERFORMANCE OF WORK DURING NON-REGULAR WORK HOURS:

- A. **NON-REGULAR WORK HOURS:** The Commissioner may issue a change order in accordance with Article 25 of the Contract which, (1) directs the Contractor to perform the Work, or specific components thereof, during other than regular work hours (i.e., evenings, weekends and holidays), and (2) provides compensation to the Contractor for costs in connection with the performance of Work during other than regular work hours. The Commissioner may issue a change order if a delay has occurred and such delay is not the fault of the Contractor, or if the Work is of such an important nature that delay in completing such work would result in serious disadvantage to the public.
- B. **PROCEDURE:** The Contractor must: (1) obtain whatever permits may be required for performance of the Work during other than regular business hours, and (2) pay all necessary fees in connection with such permits. In addition, if directed by the Commissioner, the Contractor must make immediate application to the Commissioner of the Department of Labor, State of New York, for dispensation in accordance with Subdivision 2 of Section 220 of the Labor Law.

1.12 INTERRUPTION OF SERVICES AT EXISTING FACILITIES:

- A. **EVENING AND WEEKEND WORK** - Where performance of the Work requires the temporary shutdown(s) of services, such shutdown(s) must be made at night or on weekends or at such times that will cause no interference with the established routines and operations of the facility in question.
 - 1 Where weekend or evening work is required due to unavoidable service shutdowns, such work will be performed at no extra cost to the City. Components of the Work that must be performed during other than regular work hours are indicated in the Drawings and/or the Specifications.
- B. **INTERRUPTION OF EXISTING FACILITIES:**
 - 1 The Contractor must not interrupt any of the services of the facility nor interfere with such services in any way without the permission of the Commissioner. Such interruption or interferences must be made as brief as possible, and only at such time stated.
 - 2 Under no circumstances will the Contractor, its subcontractors, or its workers, be permitted to use any part of the project as a shop, without the permission of the Commissioner.
 - 3 Unnecessary noise must be avoided at all times and necessary noise must be reduced to a minimum.
 - 4 Toilet facilities, water, and electricity must be operational at all times (i.e. 24/7). No services of the facility can be interrupted in any way without the permission of the Commissioner. Careful coordination of all Work with the Resident Engineer must be done to maintain the operational level of the Project personnel at the facility.
 - 5 The Contractor must schedule the Work to avoid noise interference that will affect the normal functions of the facility. In particular, construction operations producing noises that are objectionable to the functions of the facility must be scheduled at times of day or night, day of the week, or weekend, which will not interfere with personnel at the facility. Any additional cost resulting from this scheduling will be borne by the Contractor.
 - 6 The Contractor must arrange to work continuously, including evening and weekend hours, if required, to assure that services will be shut down only during the time actually required to make the necessary connections to the existing facility.
 - 7 The Contractor must give ample written notice in advance to the Commissioner and personnel at the facility of any required shutdown.



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1.13 PAYMENTS TO M/WBE SUBCONTRACTORS:

- A. The Department of Design and Construction (“DDC”) is committed to supporting the growth and success of Minority and Women-owned Business Enterprises (“M/WBE”). In furtherance of this goal, DDC complies with Local Law 1 / NYC Administrative Code section 6-129, as amended. In order to support the growth and success of M/WBEs on all DDC projects, it is important that M/WBE vendors that are sub-contractors (any tiers) are treated fairly at all times and that their payment requisitions / invoices are handled in accordance with the City’s Standard Construction Contract. Pursuant to the Standard Construction Contract, prime contractors are required to pay subcontractors within thirty (30) days of receipt of such funds from DDC. Failure to comply with the Standard Construction Contract and the goals established by DDC as it applies to M/WBEs, may result in financial sanctions and negative performance evaluations, which will be taken into consideration on future procurements.

PART II – PRODUCTS (Not Used)

PART III – EXECUTION (Not Used)

END OF SECTION 01 10 00



**SECTION 01 31 00
PROJECT MANAGEMENT AND COORDINATION**

PART 1 – GENERAL

1.1 RELATED DOCUMENTS:

- A. The following documents apply to all required work for the Project: (1) the Contract Drawings, (2) the Specifications, (3) the General Conditions, (4) the Addendum, and (5) the Contract [City of New York Standard Construction Contract].
- B. LEED: Refer to the Addendum to identify whether this Project is designed to comply with a Certification Level according to the U.S. Green Building Council's Leadership in Energy & Environmental Design (LEED) Rating System, as specified in Section 01 81 13.03 SUSTAINABLE DESIGN REQUIREMENTS FOR LEED v3 BUILDINGS or Section 01 81 13.04 SUSTAINABLE DESIGN REQUIREMENTS FOR LEED v4 BUILDINGS.
- C. COMMISSIONING: Refer to the Addendum to identify whether this Project will be commissioned by an independent third party under separate contract with the City of New York (City). Commissioning will be in accordance with ASHRAE and USGBC LEED-NC procedures, as described in Section 01 91 13, GENERAL COMMISSIONING REQUIREMENTS FOR MEP SYSTEMS, and/ or Section 01 91 15 GENERAL COMMISSIONING REQUIREMENTS FOR BUILDING ENCLOSURE COMMISSIONING. The Contractor must cooperate with the commissioning agent and provide whatever assistance is required.

1.2 SUMMARY:

- A. This Section includes administrative provisions for coordinating construction operations on the Project, including:
 - 1. Coordination Drawings
 - 2. Administrative and supervisory personnel
 - 3. Project meetings
 - 4. Requests for Interpretation (RFIs)
- B. This Section includes the following:
 - 1. Definitions
 - 2. Coordination
 - 3. Submittals
 - 4. Administrative and Supervisory Personnel
 - 5. Project Meetings
 - 6. Requests for Interpretation (RFI's)
 - 7. Correspondence
 - 8. Contractor's Daily Reports
 - 9. Alternate and Substitute Equipment
- C. RELATED SECTIONS:
 - 1. Section 01 10 00 SUMMARY
 - 2. Section 01 32 00 CONSTRUCTION PROGRESS DOCUMENTATION
 - 3. Section 01 33 00 SUBMITTALS
 - 4. Section 01 35 26 SAFETY REQUIREMENTS
 - 5. Section 01 73 00 EXECUTION REQUIREMENTS
 - 6. Section 01 74 19 CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL



7. Section 01 77 00 CLOSEOUT PROCEDURES

1.3 DEFINITIONS:

- A. Refer to Article 2 of the Contract for definition of terms, words and expressions used in the General Conditions not otherwise defined herein.
- B. Design Consultant: "Design Consultant" must mean 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.

1.4 COORDINATION:

- A. Coordination: The Contractor must coordinate its construction operations, including those of its subcontractors, with other entities to ensure the efficient and orderly installation of each part of the Work. The Contractor must coordinate the various operations required by different Sections of the Specifications that depend on each other for proper installation, connection, and operation.
 - 1. Schedule construction operations in sequence in order to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
 - 2. Coordinate installation of different components to ensure maximum access for required maintenance, service, and repair.
 - 3. Make adequate provisions to accommodate items scheduled for later installation.
 - 4. Where availability of space is limited, coordinate installation of different components to ensure maximum performance and access for required maintenance, service, and repair of all components, including mechanical and electrical.
- B. The Contractor must prepare memoranda for distribution to its subcontractors and other involved entities, outlining special procedures required for coordination. Such memoranda must include required notices, reports, and meeting minutes as applicable.
- C. Administrative Procedures: The Contractor must coordinate scheduling and timing of required administrative procedures with other construction activities and activities of its subcontractors to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include without limitation the following:
 - 1. Preparation of Contractor's Construction Schedule.
 - 2. Installation and removal of temporary facilities and controls.
 - 3. Delivery and processing of submittals.
 - 4. Progress meetings.
 - 5. Pre-installation conferences.
 - 6. Startup and adjustment of systems.
 - 7. Project closeout activities.
- D. Conservation: The Contractor must coordinate construction activities to ensure that operations are carried out with consideration given to conservation of energy, water, and materials.
- E. Salvaged Items, Material and/or Equipment: The Specifications may identify certain items, materials or equipment which must be salvaged by the Contractor and handled or disposed of as directed. The



Contractor must comply with all directions in the Specifications regarding the salvaging and handling of identified items, material or equipment.

- F. Software: The Contractor may be required by the Commissioner to utilize a designated cloud-based Construction Management Tool to streamline and manage activities, including but not limited to the following:
1. Submittals;
 2. Drawings, Specifications, and Bulletins;
 3. RFI's;
 4. Progress Photographs;
 5. Letters and Correspondence;
 6. Punchlists and Closeout Management;
 7. Daily Logs;
 8. Meetings and Minutes; and/or,
 9. Change Order log memos.

1.5 SUBMITTALS:

- A. Submit shop drawings, product data, samples etc., in compliance with Section 01 33 00 SUBMITTAL PROCEDURES.
- B. Coordination Drawings: The Contractor must prepare applicable Coordination Drawings in compliance with the requirements for Coordination Drawings in Section 01 33 00 SUBMITTAL PROCEDURES.
- C. Safety Plan in compliance with Section 01 35 26 SAFETY REQUIREMENTS PROCEDURES.
- D. Waste Management Plan in compliance with Section 01 74 19 CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL
- E. Key Personnel Names: Within fifteen (15) Days after the Notice to Proceed (NTP), the Contractor must submit a list of key personnel assignments of the Contractor and its subcontractors, including superintendent and other personnel in attendance at Project site. Identify individuals and their duties and responsibilities; list addresses and telephone numbers, including home and office telephone numbers. Provide names, addresses, and telephone numbers of individuals assigned as standbys in case of the absence of individuals assigned to Project.
1. Post copies of the list in Project meeting room, in temporary field office, and by each temporary telephone. Keep the list current at all times.
 2. In addition to Project superintendent, provide other administrative and supervisory personnel as required for proper performance of the Work. Include special personnel required for coordinating all operations by its subcontractors.

1.6 PROJECT MEETINGS:

- A. General: The Resident Engineer will hold regularly scheduled construction progress meetings at the site, at which time the Contractor and appropriate subcontractors must have their representatives present to discuss all details relative to the execution of the work. The Resident Engineer will preside over these meetings.
1. Agenda: Prior to each meeting, the Resident Engineer will consult with the Contractor and will prepare an agenda of items to be discussed. In general, after informal discussion of any item on the agenda, the Resident Engineer will summarize the discussion in a brief written statement, and the Contractor will then dictate a brief statement for the record.



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2. Coordination: In addition to construction progress meetings called by the Resident Engineer, the Contractor must hold regularly scheduled meetings for the purpose of coordinating, expediting and scheduling the work in accordance with the master coordinated Job Progress Chart. The Contractor and its subcontractors, material suppliers or vendors whose presence is necessary, are required to attend. These meetings may, at the discretion of the Contractor, be held at the same place and immediately following the Project meetings held by the Resident Engineer. Minutes of these meetings must be recorded, typed and printed by the Contractor and distributed to all parties concerned.

B. PRECONSTRUCTION KICK-OFF MEETING:

1. The Resident Engineer will schedule a preconstruction kick-off meeting either at DDC's main office or at the Project site to review responsibilities and personnel assignments and clarify the role of each participant. Unless otherwise directed, the Design Consultant will record and distribute meeting minutes.
2. Attendees: Authorized representative of the Sponsor Agency; Design Consultant; the Contractor and its superintendents, subcontractor(s) and their superintendent(s); LEED sub-consultant and Commissioning Authority /Agent (CxA) as applicable and other concerned parties. All participants at the meeting must be familiar with the Project and authorized to conclude matters relating to the Contract Work.
3. Agenda: Includes without limitation the following as applicable:
 - a. Establishing construction schedule;
 - b. Schedule for regular construction meetings;
 - c. Phasing;
 - d. Critical Work sequencing and long-lead items;
 - e. Designation of key personnel and their duties;
 - f. Reviewing application for payment and change order procedures;
 - g. Procedures for RFIs;
 - h. Review permits and approval requirements;
 - i. Review all recent administrative code reporting requirements relating to the Project, (i.e. LL 77, LL86 etc.);
 - j. Procedures for testing and inspecting;
 - k. Reviewing special conditions at the Project site;
 - l. Distribution of the Contract Documents;
 - m. Submittal procedures;
 - n. Safety procedures;
 - o. LEED requirements;
 - p. Commissioning requirements;
 - q. Preparation of record documents;
 - r. Historic Treatment requirements;
 - s. Use of the premises;
 - t. Work restrictions;
 - u. Sponsor Agency occupancy requirements;
 - v. Responsibility for temporary facilities, services, and controls;
 - w. Construction Waste Management and Disposal;
 - x. Indoor Air Quality Management Plan;



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- y. Dust Mitigation Plan;
- z. Office, work, and storage areas;
- aa. Equipment deliveries and priorities;
- bb. Security;
- cc. Progress cleaning; and,
- dd. Working hours;

C. CONSTRUCTION PROGRESS MEETINGS:

1. The Resident Engineer will schedule and conduct construction progress meetings at bi-weekly intervals or as otherwise determined. All participants at the meeting must be familiar with the Project and authorized to conclude matters relating to the Work. Unless otherwise directed, the Design Consultant will record and distribute meeting minutes.
2. Attendees:
 - a. Design Consultant and applicable sub-consultants;
 - b. Sponsor Agency Representative;
 - c. Representatives from the Contractor, sub-contractor(s), suppliers or other entities involved in the current progress, planning, coordination or future activities of the Work; and,
 - d. Other appropriate DDC personnel, DDC consultants and concerned parties.
3. Agenda: Includes without limitation the following:
 - a. Review the Construction Schedule and progress of the Work. Determine if the Work is on time, ahead of schedule or behind schedule. Determine actions to be taken to maintain or accelerate the schedule;
 - b. Review and approve prior meeting minutes and follow up open issues;
 - c. Coordinate work between each subcontractor;
 - d. Sequence of Operations;
 - e. Status of submittals, deliveries, and off-site fabrication;
 - f. Status of inspections and approvals by governing agencies;
 - g. Temporary facilities and controls;
 - h. Review Site Safety;
 - i. Quality and work standards;
 - j. Field observations;
 - k. Status of correction of deficient items;
 - l. RFI's;
 - m. Pending changes;
 - n. Status of outstanding payments and change orders;
 - o. LEED requirements including Construction Waste Management, Indoor Air Quality Plan, Dust Mitigation and Commissioning; and,
 - p. Status of Administrative Code reporting requirements related to the Project.

D. PREINSTALLATION CONFERENCES:

1. The Contractor will conduct a preinstallation conference at project site before each construction activity when required by other specification Sections and when required for coordination with other construction.
2. Attendees:



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- a. Contractor and its superintendents
 - b. Applicable subcontractor(s)
 - c. Representatives of manufacturers and fabricators involved in or affected by the installation and its coordination or integration with other materials and installations that have preceded or will follow.
3. Advise the Design Consultant and Commissioner of scheduled preinstallation conference meeting dates.
4. Agenda: Review progress of other construction activities and preparations for the particular activity under consideration, including requirements for the following:
 - a. Contract Documents
 - b. Related RFI's
 - c. Deliveries
 - d. Submittals
 - e. Review of mockups
 - f. Possible conflicts
 - g. Compatibility requirements
 - h. Time schedules
 - i. Weather limitations
 - j. Manufacturer's written instructions
 - k. Warranty requirements
 - l. Compatibility of materials
 - m. Acceptability of substrates
 - n. Temporary facilities and controls
 - o. Space and access limitations
 - p. Testing and inspecting requirements
 - q. Installation procedures
 - r. Coordination with other work
 - s. Required performance results
 - t. Protection of adjacent work

1.7 REQUESTS FOR INFORMATION (RFI):

- A. Procedure: Immediately on discovery of the need for information or interpretation of the Contract Documents, and if not possible to request interpretation at Project meeting, the Contractor must prepare and submit an RFI in the form specified by the Resident Engineer.
 1. RFI must originate with the Contractor. RFIs submitted by entities other than Contractor will be returned with no response.
 2. Coordinate and submit RFI in a prompt manner to the Resident Engineer so as to avoid delays in Contractor's Work or Work of its subcontractors.
 3. RFI Log: The Contractor must prepare, maintain, and submit a tabular log of RFIs organized by the RFI number monthly to the Resident Engineer, or more frequently if directed by the Resident Engineer.
 4. On receipt of responses and action to the RFI, the Contractor must update the RFI log and immediately distribute the RFI response to affected parties. Review response(s) and notify the Resident Engineer immediately if the Contractor disagrees with response(s).



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1.8 CORRESPONDENCE:

- A. Copies of all correspondence to DDC must be sent directly to the Resident Engineer at the job site.

1.9 CONTRACTOR'S DAILY REPORTS:

- A. The Contractor must prepare and submit Daily Construction Progress Reports as outlined in Section 01 32 00 CONSTRUCTION PROGRESS DOCUMENTATION.

PART II – PRODUCTS (Not Used)

PART III – EXECUTION (Not Used)

END OF SECTION 01 31 00



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**SECTION 01 32 00
CONSTRUCTION PROGRESS DOCUMENTATION**

PART 1 – GENERAL

1.1 RELATED DOCUMENTS:

- A. The following documents apply to all required Work for the Project: (1) the Contract Drawings, (2) the Specifications, (3) the General Conditions, (4) the Addendum, and (5) the Contract [City of New York Standard Construction Contract].

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for establishing an effective base line schedule for the Project and documenting the progress of construction during performance of the Work by developing and revising as necessary, various documents including but not limited to the following:
1. Submittals schedule
 2. Daily construction reports
 3. Material location reports
 4. Field condition reports
 5. Special reports
- B. RELATED SECTIONS:
- | | |
|------------------------|------------------------------|
| 1. Section 01 10 00 | SUMMARY |
| 2. Section 01 32 22 | PHOTOGRAPHIC DOCUMENTATION |
| 3. Section 01 32 16.10 | PROJECT SCHEDULES (METHOD A) |
| 4. Section 01 32 16.20 | PROJECT SCHEDULES (METHOD B) |
| 5. Section 01 32 16.30 | PROJECT SCHEDULES (METHOD C) |
| 6. Section 01 33 00 | SUBMITTAL PROCEDURES |
| 7. Section 01 40 00 | QUALITY REQUIREMENTS |

1.3 DEFINITIONS:

- A. Refer to Article 2 of the Contract for definition of terms, words and expressions used in the General Conditions not otherwise defined herein.
- B. Design Consultant: "Design Consultant" must mean 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.



PART II – PRODUCTS

2.1 SUBMITTALS SCHEDULE:

- A. Preparation: The Contractor must submit a schedule of submittals, arranged in chronological order by dates required by the construction schedule. Include time required for review, re-submittal, ordering, manufacturing, fabrication, and delivery when establishing dates. The Submittals Schedule must show all of the following types of submittals:
1. Shop and Coordination Drawings
 2. Material Samples
 3. Catalog Cuts
 4. Test and Evaluation Reports
 5. Field Test Reports
 6. Sample Warranties
 7. Certificates
 8. Qualification Data
 9. Closeout Submittals
- B. Submittals: At the kick-off meeting, the Contractor must have a preliminary Submittals Schedule, and must review this Schedule with the Resident Engineer and the Design Consultant. Within ten (10) Days after the kick-off meeting, the Contractor must complete the Submittals Schedule, including all submission dates, required delivery dates, and fabrication times. The Contractor must include an updated Submittals Schedule with all Progress Payment applications.
- C. Review: The Resident Engineer will review the Submittals Schedule submitted by the Contractor. Upon acceptance, the Resident Engineer will date and sign the schedule as approved and transmit it to the Design Consultant, Contractor, and others within DDC as the Resident Engineer deems appropriate. If so directed by the Commissioner, the Contractor must revise the Submittals Schedule to indicate a submission date for specified shop drawings and/or material samples within sixty (60) Days after the kick-off meeting. The Contractor must resubmit the Submittals Schedule as necessary to include all review comments.

2.2 REPORTS:

- A. Daily Construction Reports: The Contractor must submit to the Resident Engineer written Daily Construction Reports at the end of each day that work was performed, recording basic information such as the date, day, weather conditions, and contract days passed, remaining contract duration/days and the following information concerning the Project.

Information: The reports must be prepared by the Contractor's Superintendent and must bear the Contractor's Superintendent's signature. Each report must contain the following information:

1. List name of Contractor, subcontractors, their work force in each category, and details of activities performed;
2. The type of materials and/or major equipment being installed by the Contractor and/or by each subcontractor;
3. The major construction equipment being used by the Contractor and/or subcontractors;
4. Material and Equipment deliveries;
5. High and low temperatures and general weather conditions;
6. Accidents;
7. Meetings and significant decisions;
8. Unusual events;
9. Stoppages, delays, shortages, and losses;
10. Meter readings and similar recordings;



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11. Emergency procedures;
12. Orders and/or requests of authorities having jurisdiction;
13. Approved Change Orders received and implemented;
14. Field Orders and Directives received and implemented;
15. Services connected and disconnected;
16. Equipment or system tests and startups;
17. Partial Completion(s) and occupancies; and,
18. Substantial Completion(s) authorized;

NOTE: If there is NO ACTIVITY at site, a daily report indicating so and the reason for no activity at the site must be submitted.

- B. Material Location Reports: The Contractor must submit a Material Location Report at weekly OR monthly intervals as determined and established by the Resident Engineer. Such report must include a comprehensive list of materials delivered to and stored at Project site. List must be cumulative, showing materials previously reported plus items recently delivered. Include with list a statement of progress on and delivery dates for materials or items of equipment fabricated or stored away from Project site.
- C. Field Condition Reports: Immediately on discovery of a difference between field conditions and the Contract Documents, prepare and submit a detailed report. Submit a Request For Information (RFI) form with a detailed description of the differing conditions, together with recommendations for changing the Contract Documents.

2.3 SPECIAL REPORTS:

- A. Accident report, incident report, special condition report for the conditions out of control of any party involved with the Project effecting Project progress, explaining impact on the Project schedule and cost if any.

PART III – EXECUTION (Not Used)

END OF SECTION 01 32 00



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**SECTION 01 32 16.10
PROJECT SCHEDULES (METHOD A)**

REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SECTION 01 32 16.10

PART 1 – GENERAL

1.1 RELATED DOCUMENTS:

- A. The following documents apply to all required work for the Project: (1) the Contract Drawings, (2) the Specifications, (3) the General Conditions, (4) the Addendum, and (5) the Contract [City of New York Standard Construction Contract].

1.2 SUMMARY:

- A. This section includes the following:
 - 1. Methods
 - 2. Definitions
 - 3. Preliminary, Baseline, and Project Schedule Preparation Timeline
 - 4. Preliminary Project Schedule Development
 - 5. Project Schedule
 - 6. Activity and Calendar Coding Structure
 - 7. Work Breakdown Structure (WBS)
 - 8. Major Milestones
 - 9. Short (Three-Week) Interval/Two-Week Look-Ahead
 - 10. Submittals
 - 11. Project Schedule Updating
 - 12. Time Impact Analysis

1.3 METHODS:

- A. The Contractor must comply with Project schedule development and updating requirements as specified herein.
 - 1. The Contractor must employ or retain the services of a Construction Scheduler with verifiable construction scheduling experience, subject to review and acceptance by the City. Upon request, the Contractor must provide the City with details of qualifications and experience of the proposed scheduling staff member(s).
 - 2. The Contractor must prepare, update, and maintain a detailed Project Schedule using a version of scheduling software that is compatible with the City's Oracle Primavera P6 Enterprise Project Portfolio Management (EPPM). All schedule submittals must be developed using Oracle's Primavera P6 EPPM software. Schedules must be developed using accepted CPM techniques using the precedence diagramming method (PDM). The Project Schedule must be developed following Defense Contract Management Agency (DCMA) and American Association of Cost Engineering International (AACE International) guidance. The Contractor will be required to use the Contractor's



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own P6 license (whether single-user or Enterprise license), unless otherwise directed by the Commissioner. If directed by the Commissioner prior to the Notice to Proceed (NTP), the Contractor must use the Department's P6 Enterprise license and develop the Progress Schedule within the Department's Enterprise environment.

3. Once the Baseline Schedule is accepted by the City, progress updates to the Project Schedule must be submitted monthly, unless otherwise directed by the City, until Substantial Completion. The Data Date for the schedule updates must use the last Friday of the month, or as directed by the City.
4. The Contractor will be responsible for providing the monthly schedule updates once the Baseline Schedule is approved. Each monthly schedule update must be accompanied with a schedule narrative that explains the following:
 - a. The progress of work during that particular period of performance,
 - b. Any changes in schedule Logic,
 - c. The physical conditions that were used to update every Activities Percent Complete,
 - d. Any change in actual Start and Finish Dates,
 - e. Any Duration changes,
 - f. Any added and deleted Activities, and
 - g. Any added Extra Work (e.g. change orders).

1.4 DEFINITIONS:

- A. Refer to Article 2 of the Contract for definition of terms, words and expressions used in the General Conditions not otherwise defined herein.

<u>Term</u>	<u>Definition</u>
Activity	A representation of a discrete portion of the overall scope of Work or an event through Duration and description in a CPM schedule.
Baseline Schedule	The planned and detailed CPM schedule of Activities, including all Logic, Durations, Resource and Cost Loading, and showing the entire scope of Work. The Baseline Schedule must be accepted by the City.
Critical Path	The longest sequence of Activities in a network which establishes the minimum length of time for accomplishment of the end event of the Project.
Critical Path Method (CPM)	A management technique used to plan and control a Project which combines all relevant information into a single plan defining the sequence and Duration of operations and depicting the interrelationship of the Work elements required to complete the Project.
Current Schedule	The most recently updated schedule that captures progress to date and forecasts the dates for each Activity.
Data Date	The date used as a starting point for scheduling calculations. The Data Date is changed to the current end of period date when a schedule is updated for progress.
Duration	The amount of time, in workdays, an Activity will take to perform.



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<u>Term</u>	<u>Definition</u>
Finish Date	The earliest estimated date an Activity is calculated to be complete, based on the estimated performance of all prior Activities to which the Activity is logically connected in a progressive relationship.
Free Float	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. (See Finish Date and Late Finish).
Fragnet	Fragmentary network: a portion of a schedule detailing impacts of an event on specific Activities in the broader schedule.
Inclement Weather	Any weather condition, the duration of which varies in excess of the 3-year average published by the National Oceanic and Atmospheric Administration (NOAA) information for the local area.
Integrated Project Schedule	The Commissioner's overall schedule covering design, procurement and construction. The Commissioner will use the Contractor's Project Schedule to update the Integrated Project Schedule.
Late Finish	An estimate of the latest plausible date an Activity's completion can be postponed without rendering as unachievable the required completion of any downstream Milestones to which the Activity is Logically connected to in a progressive relationship.
Late Start	An estimate of the latest plausible date an Activity's start can be postponed without rendering as unachievable the required completion of any downstream Milestones to which the Activity is Logically connected to in a progressive relationship.
Logic	A direct progressive relationship between Activities where one Activity's performance restricts the performance of another Activity.
Milestone	A key or critical point in time for reference or measurement.
Network Diagram	A graphic diagram of a network schedule, showing Activities and Activity relationships.
Original Duration	The estimated amount of time, in Work Days, an Activity is expected to take to complete at the beginning of a Project as anticipated by the Contractor based on its planned means and methods at time of bid and documented in the Baseline Schedule.
Percent Complete	The percentage of the scope of Work represented by an Activity completed as of the Data Date calculated as physical percent complete for payment purposes.
Project Schedule	The Contractor's schedule used to manage the orderly and expeditious completion of the Work. The Project Schedule is initially the accepted Baseline Schedule, and is updated throughout the Project.
Remaining Duration	The amount of time, in Work Days, the remaining scope of Work represented by an Activity is expected to take to complete, measured from the current Data Date.



<u>Term</u>	<u>Definition</u>
Resource and Cost Loading	Values assigned for estimated dollars, manpower, equipment and/or materials necessary to complete the scope of Work represented by a specific Activity.
Recovery Schedule	A Recovery Schedule outlining and incorporating extraordinary efforts required to recover lost time with the aim of achieving completion of the Project within the stipulated contract Duration, plus authorized time extensions. In such case, special attention must be given to minimize delays as much as possible and must establish the nature of efforts; for instance, resources and equipment required, extended hours of work, weekend work, accelerated fabrication, required action(s) or effort(s) by the Contractor, its subcontractors, consultants, clients, end users and/or other concerned parties to recover the schedule.
Revised and/or Updated Schedule	A Baseline Schedule, Progress Project Schedule, or Recovery Schedule for the Project that shows the actual Duration of all the completed Activities, including Duration of and the reasons for delays, if any has occurred, AND revisions to all remaining Activities of the Contractor and its subcontractors, including changes, if any, to logical ties, interrelations and the sequence of each of the outlined Activities. Any such revisions should be shown on the row just below the approved schedule of the respective Activity so that revisions can be compared. The Revised and/or updated Schedule must be reviewed and approved by the City.
Start Date	The earliest estimated date an Activity is calculated to begin, based on the estimated performance of all prior Activities to which the Activity is logically connected in a progressive relationship.
Time Impact Analysis	A forward looking (prospective) schedule analysis used to forecast the impact to the Critical Path and to Milestone Finish Dates caused by a single event or series of events. Time Impact Analysis is not a retrospective (forensic) schedule analysis or a what-if schedule analysis of a potential event.
Total Float	The amount of time the start or finish of an Activity can be delayed without affecting the Project completion date.
Work Breakdown Structure (WBS)	WBS is a deliverable-oriented decomposition of a Project into smaller components. A WBS provides the necessary framework for detailed cost estimating and control along with providing guidance for schedule development and control.
Work Days (WD)	Work Days are every consecutive day in the calendar, excluding weekends (Saturday and Sunday) and holidays.

1.5 PRELIMINARY, BASELINE, AND PROJECT SCHEDULE PREPARATION TIMELINE:

- A. Upon receipt of the NTP, the Contractor must promptly prepare a preliminary Project Schedule and subsequently a Baseline Schedule and must submit for the City's acceptance as follows:
1. The preliminary Project Schedule must be submitted no later than fifteen (15) Days after NTP.
 2. The initial submittal of the Baseline Schedule must be provided to the City for review no later than thirty (30) Days after NTP.



3. The Contractor must incorporate all corrections and revisions required by the City and provide an updated version of the Baseline Schedule for review and acceptance no later than sixty (60) Days after NTP to ensure that the Baseline Schedule is accepted. The sixty (60) Days must include fourteen (14) Days review times for each submittal of the Baseline Schedule.
4. Once accepted, the Baseline Schedule will be the basis of Project Schedule updates.

1.6 PRELIMINARY PROJECT SCHEDULE DEVELOPMENT:

- A. The preliminary Project Schedule must be a detailed plan (division level per Construction Specifications Institute (CSI) MasterFormat) of all operations, including submittals, permitting, testing, and construction Activities, for either the first ninety (90) Days after NTP or to the point where the Contractor plans to mobilize on site (whichever is greater). This submittal will also depict a summary level (section level per CSI MasterFormat) schedule of the major Activities for the remainder of the Work.
 1. All Activities for Contractor mobilization, procurement, and construction Activities within the first sixty (60) Days, including permits and submittals. All remaining work forecasted after the first sixty (60) Days must be summarized through the Contract's completion date.
 2. All submittal and procurement Activities for long lead items.
 3. The Project's Critical Path.
 4. An electronic copy of the schedule in either MS Project (.MPP) or Primavera P6 Professional Format (.XER).
- B. The preliminary Project Schedule will be reviewed by the City and returned with comments, as necessary, within fourteen (14) Days of submittal receipt. Information from the preliminary Project Schedule will be the general foundation for development of the Baseline Schedule.

1.7 PROJECT SCHEDULE:

- A. The Baseline Schedule must show the sequence in which the Contractor proposes to perform the Work, and account for all major and intermediate Milestone Activities, phasing, restrictions of access, availability of work areas and the availability and use of labor, materials, and equipment.
- B. After the Baseline Schedule is approved, the Project Schedule must be the Contractor's working schedule and must be used to plan, organize, execute, and track the Project. The Project Schedule is the primary vehicle used to report actual performance, progress, and convey the Contractor's execution plan to complete the Work.
- C. The Project Schedule must show the sequence in which the Contractor proposes to perform the Work, and account for all major and intermediate Milestone Activities, phasing, restrictions of access, availability of work areas and the availability and use of labor, materials, and equipment.
- D. The Project Schedule must be the Contractor's working schedule used to plan, organize, execute, and track the Project. The Project Schedule is the primary vehicle used to report actual performance, progress, and convey the Contractor's execution plan to complete all remaining Work.
- E. All delay claims must be based on the current approved updates of the Project Schedule.
- F. The Contractor must confirm in writing that all subcontractors performing any portion of the Work are in agreement with the accepted Baseline Schedule and the monthly updates.
- G. The amount of detail represented in the Baseline and Project Schedule and supporting documents submitted must, at a minimum, include the following items:



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1. Contract Milestones must be identified and included in the Baseline and Project Schedule.
 2. All submittal, owner review & approval, purchase, manufacture, and delivery Activities for all major materials and equipment.
 3. Deliveries of owner-furnished equipment and/or materials.
 4. Preparation, submittal, and approval of drawings, material samples, and safety plans.
 5. Preparation, submittal, review, and approval of permits required by all regulatory agencies and other third parties.
 6. Performance of tests, submission of test reports, and approval of test results.
 7. Commissioning Activities for all commissioned systems and equipment is to be clearly delineated and scheduled such that they will be completed prior to Substantial Completion. Such Activities must include, at a minimum, Pre-Functional testing and check sheets; Testing, Adjusting, and Balancing (TAB) verification; Functional Testing, including testing of all controls; and Owner's demonstration and orientation.
 8. Completion dates of all items required for phased completion (if applicable).
 9. Completion dates of all items required for Substantial Completion.
 10. Completion dates of all items required to obtain a Temporary Certificate of Occupancy (TCO) and Certificate of Occupancy (CO).
 11. Completion dates for close-out of regulatory and punch list items prior to Final Acceptance and transfer of the Project.
 12. Any additional detail requested by the Commissioner.
- H. Activities identified in the Baseline and Project Schedule must have the Duration in units of whole Work Days. Construction Activity Durations must not exceed twenty (20) Work Days unless specifically approved by the City. This is to ensure that Activities are not generalized and that each Activity and sub-Activity are defined as narrowly as reasonable to facilitate schedule tracking. Durations for non-construction Activities such as procurement of materials, delivery of equipment, concrete curing, etc., may exceed twenty (20) Work Days without prior approval; however, these are still subject to review by the City. Durations must be based on the available resources required for performing each Activity and must be the result of definitive labor hours using established production rates, and with consideration of on-site working conditions. If requested by the City, the Contractor must justify the reasonableness of a planned Duration.
- I. Activity descriptions must use plain language that clearly and uniquely defines each Activity. Each description must include a verb or work function (e.g. submit, form, pour, etc.), an object (e.g. slab, foundation, etc.) and, for any construction Activities, a specific location. The Work related to each Activity must be limited to one responsibility and one trade.
- J. Activity relationships must be assigned to clearly establish predecessor and successor relationships to each Activity. Open-ended Activities are not permitted with the exception of the first and last Activity in the network, the first Activity being NTP and the last being Final Acceptance. The use of relationship lag times is discouraged and only permitted with prior approval by the City. The use of negative lag is never permitted.
- K. Activity constraint dates are only to be used to reflect contractual constraints unless specifically authorized by the City.
- L. Float or slack, 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.
- M. Each resubmittal after the Project Schedule is delivered for acceptance must comply with all requirements of this section. Review and response by the City will be given within fourteen (14) Days after resubmission. The Contractor's receipt of the comments within the time specified must not, in any way, affect the Contractor's responsibility to complete the Project within the time fixed in Schedule A.
- N. Failure by the City to return comments or indicate acceptance status will in no way relieve the Contractor's obligation to submit monthly schedule updates.



- O. At the request of the City, the Contractor must be required to make a presentation to explain or clarify the intended logical sequence of construction Activities depicted in the detailed Project Schedule. The Contractor and designated scheduler must discuss anticipated challenges and outline construction methodology and flow of work to show how and when major Milestones will be achieved. In addition, the Contractor may, at no cost to the City, be required to participate in additional Project meetings necessary to obtain acceptance of the above-noted submittals.

1.8 ACTIVITY AND CALENDAR CODING STRUCTURE:

- A. The Baseline and Project Schedules must contain a sufficient number of Activities to represent adequate planning and execution of the Work so that it shows an accurate flow of work and demonstrates an understanding of the Project by the Contractor.
- B. Activity ID and Calendar Coding
1. The Contractor's proposed Activity and calendar coding and must be submitted with the preliminary Project Schedule. A meeting may be requested by the City to discuss the scheme and other schedule information prior to the submittal of the Project Schedule. The accepted coding scheme and WBS Structure must be incorporated into the Project Schedule.
- C. Activity ID Coding
1. All Activities/ Resources/ Calendars (Baseline and Project Schedules) must be coded inside the P6 Project Environment / Project Level (NOT the Global Environment/ Enterprise Level) to facilitate selection, sorting and preparation of reports.
 2. Activity coding must consist of the Project ID followed by a dash, followed by Activity coding (PROJECT ID-ACTIVITY CODE). Activity codes must be created at the Project level and must utilize the coding scheme outlined in the table below:

Activity Code	Meaning
RESP	<u>Responsibility</u> : Identify the party (e.g. Contractor, subcontractor, City, etc.) responsible for the Activity.
PHAS	<u>Phase</u> : Breakdown of Activities in Milestones, pre-construction, procurement, construction and close-out Activities.
LOCN	<u>Location</u> : Breakdown by floor or elevation.
AREA	<u>Area</u> : Breakdown by room, area, block or wing. May be used as a subdivision of PHAS to include Milestones, permits, subcontractor approvals, submittals, fabrication and delivery, and subdivision of the Site and buildings into Logical modules, such as by blocks, wings, etc.
TRAD	<u>Trade</u> : Breakdown by CSI Code or section number in the Specifications.

- a. Description of schedule Activities must include terminology that represents the scope of work associated with that particular Activity. Terminology used to describe similar actions must be consistent across all segments of work.
- b. Naming convention for schedule Activities must be descriptive and indicate the associated work covered by the Activity. Activities must use a verb, noun, and location of the work in the Activity name.



3. Project Calendar Coding

- a. All calendars created and assigned to Activities must be Project-level calendars. The Calendar Name must consist of the Project ID number followed by a dash, followed by a descriptive Calendar Name (PROJECT ID-CALENDAR NAME).

1.9 WORK BREAKDOWN STRUCTURE:

- A. Structure must be submitted with the preliminary Project Schedule. The levels (nodes) must include, but not be limited to:
 1. LEVEL 01 – The Project Level.
 2. LEVEL 02 – Contains a minimum of four (4) nodes: Pre-Construction, Procurement, Construction or Phase of Construction, and Closeout.
 3. LEVEL 03 – Decomposition of each of the four (4) nodes in Level 02 into its constituent parts. This level must target specific, tangible, deliverable scopes of Project Work.
- B. The Contractor's proposed WBS must be submitted with the preliminary Project Schedule. The accepted WBS Structure must be incorporated into the Baseline and Project Schedule.

1.10 MAJOR MILESTONES:

- A. The schedule must include both contractual and non-contractual Milestones that are provided by the City. These Milestones must be properly associated with the related Work and maintained to represent the progress of the Project.

1.11 SHORT (THREE-WEEK) INTERVAL / TWO-WEEK LOOK-AHEAD:

- A. On a bi-weekly basis, the Contractor must provide a three (3) week short interval schedule in a format satisfactory to the City. The purpose of this schedule is to report the actual progress of the past week against the previous short interval look-ahead Activities and add any additional Activities planned for the next two (2) weeks. Electronic files and hard copies must be provided to the City on the first day of each work week with the prior week's actual progress included.
- B. Each task listed on the short interval schedule must be representative of the most current Project Schedule Update and include a reference to an Activity shown on the current update.

1.12 SUBMITTALS:

- A. General
 1. Development of the Baseline Schedule and updating of the Project Schedule must follow the DCMA and AACE International guidelines.
 2. Each electronic submission of the Project Schedule must be assigned a unique file name consisting of the Project ID (as noted on the NTP followed by a dash followed by a unique file name clearly marked (i.e. ProjID- B000 = B/L rev0, ProjID-B001 = B/L rev01 etc.) to indicate the specific submission. Similarly, update submittals must be named ProjID-Uxxx where xxx is a sequential number, starting with 001, indicating the revision or issue number.
 3. The Contractor must provide all submittals in electronic format and two hard copies.
- B. Preliminary Project Schedule



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1. For acceptance of the preliminary Project Schedule, the Contractor must submit the following:
 - a. Two (2) 11" x 17" hard copies of the proposed preliminary Project Schedule, as well as the native electronic schedule data file, in .XER file format, per the direction of the City.
 - b. A Schedule Narrative Report detailing the Contractor's initial plan for executing the Contract work within the allotted Contract Duration, and include the following explanation of their provided preliminary schedule:
 - i. The proposed WBS;
 - ii. All proposed Project Calendars;
 - iii. All proposed Activity Codes, clearly defined;
 - iv. The proposed Activity ID format; and
 - v. Schedule basis narrative, which must memorialize assumptions made in the development of the schedule.

C. Baseline Schedule

1. The City will normally return comments within ten (10) Work Days after receipt of the initial Project Schedule Submission. If any of the required submissions are returned to the Contractor for corrections or revisions, they must be resubmitted within five (5) Work Days from receipt of comments. Each resubmittal must comply with the requirements enumerated above. Review and response by the City will be given within ten (10) Work Days after resubmission.
2. At the request of the City, the Contractor will be required to participate in Project meetings necessary to obtain an acceptance of the above noted submittals.
3. Baseline Schedule submittal must contain a Narrative Report. It must include the following, or as directed by the City:
 - a. A description of the Project scope and how the Work is represented in the schedule Activities;
 - b. A description of the overall sequence of major components of Work;
 - c. Planned work week for each definable feature of work;
 - d. Description of the Critical Path and near Critical Paths;
 - e. How weather will be accommodated in the schedule, including a description of the weather calendar and the Activities it is applied to, and the NOAA Inclement Weather data that defined the number of non-work days;
 - f. How regulatory, operational or third-party constraints are accommodated in the schedule;
 - g. Description of key Project coordination points or events;
 - h. Discussion of long lead items and basis of time frames for submittals; and
 - i. Potential opportunities and risks, including quantification of the schedule reduction or expansion.

D. Project Schedule Updates

1. Every schedule submittal must be provided with a corresponding narrative. These schedule submittals and narratives are to be submitted in hard copy, as well as in the native electronic format, as attachments to emails or other media accepted by the City. When opened, the electronic format must provide flawless restoration of the native files (P6 (.XER) for Primavera and MS Word and/or Adobe Acrobat for Narrative and supporting document submittals).



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2. For each submittal of the updated Project Schedule, the following layouts, reports, and graphics are required in the specified formats, unless otherwise directed by the City:
 - a. The Contractor must furnish two (2) 11" x 17" color hard copies of the complete progress schedule with each initial schedule update and final update incorporating comments furnished by the City. Additionally, the Contractor must provide the native electronic schedule data file, in .XER file format with the initial and final schedule update submission.
 - b. An Activity bar chart Layout grouped by Activity Code and then sorted by Start Date, Finish Date, and then Total Float.
 - c. Each Activity line must display the Activity ID (Act ID), Description (Name), Original Duration (OD), Remaining Duration (RD), Start Date (ES), Finish Date (EF), and Total Float (TF), Baseline Original Duration (BL OD) Baseline Start (BL Start), Baseline Finish (BL Fin), Baseline Total Float (BL TF).
 - d. An Activities progress bar must show both current progress update ES and EF, and baseline ES and EF. The top line of the bar chart area must contain the updated ES and EF; the second line below must depict the accepted baseline ES and EF dates.
3. The City may request additional standard P6 reports from time to time at no additional cost.
4. The Monthly Update submittal must contain a Narrative Report. It must include the following, or as directed by the City:
 - a. Any changes to the schedule basis narrative;
 - b. Overall health of the Project;
 - c. Actual Activity Start Dates;
 - d. Actual Activity Finish Dates;
 - e. The physical conditions that were used to update Activities percent complete;
 - f. Percent of Work reported in place;
 - g. A description of the overall sequence of major components of Work;
 - h. Description of the Critical Path and near Critical Paths;
 - i. Description of key Project coordination points or events;
 - j. Discussion of long lead items and basis of time frames for submittals;
 - k. Potential opportunities and risks, including quantification of the schedule reduction or expansion;
 - l. Assumptions/exclusions made in the schedule;
 - m. Contract and Milestone completion date status:
 - i. Number of Days ahead or behind schedule and; and
 - ii. Days lost/gained compared with the previous update.
 - n. Lookahead report listing each Activity in the CPM schedule that is scheduled to be performed during the next reporting period;
 - o. Changes in Activity description, Logic, or Duration must be submitted as a separate Proposed Schedule and approved by the City prior to being submitted as an official update. Once allowed, said changes must be grouped and organized in the report in a manner that communicates in detail the rationale associated with each change and



the impact upon construction sequence, relationships and the Critical Path. A standard Digger Report is not sufficient to meet this requirement;

- p. Added/deleted Activities and the rationale associated with each action;
- q. Pending issues and status of other items;
- r. Permits;
- s. Contract modifications; and
- t. Extra Work, including change orders.

1.13 PROJECT SCHEDULE UPDATING:

- A. The initial updating must take place immediately after the City accepts the Contractor's Baseline Schedule. The Data Date for the first update must not exceed seven (7) Days from the date of receipt of the accepted Baseline Schedule, or as directed by the City.
- B. Subsequent updates of the Project Schedule must be submitted monthly until Substantial Completion. The schedule Data Date must be the last Work Day of the period unless otherwise directed by the City. Updates must be provided to the City no later than seven (7) Days after the 'schedule Data Date'.
- C. Updates must reflect actual or reasonably anticipated progress as of the last Work Day of the period.
- D. The City may request meetings with the Contractor to review the Project Schedule and narrative and jointly verify Project health and information.
- E. In addition, the City may request meetings with the Contractor's scheduling representative to:
 - 1. Resolve out-of-sequence Logic.
 - 2. Should out-of-sequence progress occur where Activities have reported progress without predecessor Activities being completed, the Contractor must obtain the City's approval in a Proposed Schedule before revising the Logic ties to reflect the way the Work is actually being performed. Use of progress override by default mechanisms that may be included in CPM scheduling software systems will not be allowed except on a case-by-case basis with the approval of the City. A written explanation for each instance must be included in the monthly submittal narrative.
 - 3. Assess the impact, if any, of any pending change orders.
 - 4. Incorporate accepted time extensions.
 - 5. Review revised Logic (as-built and projected) and changes in Activity Duration, cost, and labor hours assigned.
- F. Contractor's failure to provide required scheduling information within the required timeframe or to adhere to the currently accepted schedule may result in rejection of all or a portion of the progress payment until such time as the required schedule information is submitted and accepted by the City.
- G. Delays to the Critical Path – Whenever it becomes apparent from the monthly CPM schedule update that delays to the Critical Path have occurred due to action or inaction of the Contractor, and as a result the date for Substantial Completion will not be met, the Contractor must promptly take some or all of the following actions at no additional cost to the City, unless otherwise directed by the City:
 - 1. Increase construction manpower in such quantities and crafts as will substantially eliminate the backlog of Work.



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2. Increase the number of working hours per shift, shifts per day, or Work Days per week; the amount of construction equipment; the forms for concrete work; etc., or any combination of the foregoing to substantially eliminate the backlog of Work.
 3. Reschedule Activities to achieve maximum practical concurrence of accomplishment of Activities and comply with the revised schedule.
 4. Submit to the City for review a written statement of the steps the Contractor intends to take to remove or arrest the delay to the schedule.
 5. Add to its equipment and materials or construction forces, as well as increase the working hours, if operations for critical, less critical or non-critical Activities fall behind the Contractor's Baseline Schedule at any time during the construction period.
- H. The City may, at any time during the Project and at no additional cost to the City, require the Contractor to develop a more detailed schedule/ Fragnet than depicted in the Baseline Schedule to provide a clearer understanding of the effort needed to complete an Activity or group of Activities.
- I. If the City determines that either the Critical Path is in the negative by four (4) weeks, or that the Project's date for completion may be affected, the Contractor may be required, at no additional cost to the City, to prepare a Recovery Schedule. Such Recovery Schedule is subject to review and acceptance by the City. The Recovery Schedule must propose alternative methods, overtime, and other means available to the Contractor to recover the delays incurred to date.
- J. The Contractor must submit an "As-Built Schedule", as the last schedule update showing all Activities, with the exception of punch list and closeout tasks, at Substantial Completion. This schedule must reflect the exact manner in which the Project was actually constructed.

1.14 TIME IMPACT ANALYSIS:

- A. In addition to the requirements of the Standard Construction Contract Article 11, the Contractor must submit a Time Impact Analysis to the Engineer with all requests for time extension.
- B. The Time Impact Analysis must include a written narrative and supporting impact schedule Fragnet detailing the Project delays resulting from the alleged delay. The impact schedule Fragnet, separate and distinct from the Progress Schedule update, must demonstrate that the changes or anticipated delays affect Activities of the current accepted Progress Schedule. The impact schedule will be incorporated into the Progress Schedule only after it is accepted by the Commissioner and a time extension is approved. The Fragnet submitted as part of the Time Impact Analysis must illustrate the impact of these changes or delays on the date for Substantial Completion.

PART II – PRODUCTS (Not Used)

PART III – EXECUTION (Not Used)

END OF SECTION 01 32 16.10



**SECTION 01 32 16.20
PROJECT SCHEDULES (METHOD B)**

REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SECTION 01 32 16.20

PART 1 – GENERAL

1.1 RELATED DOCUMENTS:

- A. The following documents apply to all required work for the Project: (1) the Contract Drawings, (2) the Specifications, (3) the General Conditions, (4) the Addendum, and (5) the Contract [City of New York Standard Construction Contract].

1.2 SUMMARY:

- A. This section includes the following:
 - 1. Methods
 - 2. Definitions
 - 3. Preliminary, Baseline, and Project Schedule Preparation Timeline
 - 4. Preliminary Project Schedule Development
 - 5. Project Schedule
 - 6. Activity and Calendar Coding Structure
 - 7. Work Breakdown Structure (WBS)
 - 8. Major Milestones
 - 9. Short (Three-Week) Interval/Two-Week Look-Ahead
 - 10. Submittals
 - 11. Project Schedule Updating
 - 12. Time Impact Analysis

1.3 METHODS:

- A. The Contractor must comply with Project schedule development and updating requirements as specified herein.
 - 1. The Contractor must employ or retain the services of a Construction Scheduler with verifiable construction scheduling experience, subject to review and acceptance by the City. Upon request, the Contractor must provide the City with qualifications and experience of the proposed scheduling staff member(s).
 - 2. The Contractor must prepare, update, and maintain a detailed Project Schedule using a version of scheduling software that is compatible with the City's Oracle Primavera P6 Enterprise Project Portfolio Management (EPPM). All schedule submittals must be developed using Oracle's Primavera P6 EPPM software. Schedules must be developed using accepted CPM techniques using the Precedence Diagramming Method (PDM). The Project Schedule must be developed following Defense Contract Management Agency (DCMA) and American Association of Cost Engineering International (AACE International) guidance. The Contractor will be required to use



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the Contractor's own P6 license (whether single-user or Enterprise license), unless otherwise directed by the Commissioner. If directed by the Commissioner prior to the Notice to Proceed (NTP), the Contractor must use the Department's P6 Enterprise license and develop the Progress Schedule within the Department's Enterprise environment.

3. Once the Baseline Schedule is accepted by the City, progress updates to the Project Schedule must be submitted monthly, unless otherwise directed by the City, until Substantial Completion. The Data Date for the schedule updates must use the last Friday of the month, or as directed by the City.
4. The Contractor will be responsible for providing the monthly schedule updates once the Baseline Schedule is approved. Each monthly schedule update must be accompanied with a schedule narrative that explains the following:
 - a) The progress of work during that particular period of performance;
 - b) Any changes in schedule Logic;
 - c) The physical conditions that were used to update every Activities Percent Complete;
 - d) Any change in actual Start and Finish Dates;
 - e) Any Duration changes;
 - f) Any added and deleted Activities; and,
 - g) Any added Extra Work (e.g., change orders).

1.4 DEFINITIONS:

- A. Refer to Article 2 of the Contract for definition of terms, words and expressions used in the General Conditions not otherwise defined herein.

<u>Term</u>	<u>Definition</u>
Activity	A representation of a discrete portion of the overall scope of Work or an event through Duration and description in a CPM schedule.
Baseline Schedule	The planned and detailed CPM schedule of Activities, including all Logic, Durations, Resource and Cost Loading, and showing the entire scope of Work. The Baseline Schedule must be accepted by the City.
Critical Path	The longest sequence of Activities in a network which establishes the minimum length of time for accomplishment of the end event of the Project.
Critical Path Method (CPM)	A management technique used to plan and control a Project which combines all relevant information into a single plan defining the sequence and Duration of operations and depicting the interrelationship of the Work elements required to complete the Project.
Current Schedule	The most recently updated schedule that captures progress to date and forecasts the dates for each Activity.
Data Date	The date used as a starting point for scheduling calculations. The Data Date is changed to the current end of period date when a schedule is updated for progress.
Duration	The amount of time, in workdays, an Activity will take to perform.



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<u>Term</u>	<u>Definition</u>
Finish Date	The earliest estimated date an Activity is calculated to be complete, based on the estimated performance of all prior Activities to which the Activity is logically connected in a progressive relationship.
Free Float	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. (See Finish Date and Late Finish).
Fragnet	Fragmentary network: a portion of a schedule detailing impacts of an event on specific Activities in the broader schedule.
Inclement Weather	Any weather condition, the duration of which varies in excess of the 3-year average published by the National Oceanic and Atmospheric Administration (NOAA) information for the local area.
Integrated Project Schedule	The Commissioner's overall schedule covering design, procurement, and construction. The Commissioner will use the Contractor's Project Schedule to update the Integrated Project Schedule.
Late Finish	An estimate of the latest plausible date an Activity's completion can be postponed without rendering as unachievable the required completion of any downstream Milestones to which the Activity is Logically connected to in a progressive relationship.
Late Start	An estimate of the latest plausible date an Activity's start can be postponed without rendering as unachievable the required completion of any downstream Milestones to which the Activity is Logically connected to in a progressive relationship.
Logic	A direct progressive relationship between Activities where one Activity's performance restricts the performance of another Activity.
Milestone	A key or critical point in time for reference or measurement.
Network Diagram	A graphic diagram of a network schedule, showing Activities and Activity relationships.
Original Duration	The estimated amount of time, in Work Days, an Activity is expected to take to complete at the beginning of a Project as anticipated by the Contractor based on its planned means and methods at time of bid and documented in the Baseline Schedule.
Percent Complete	The percentage of the scope of Work represented by an Activity completed as of the Data Date calculated as physical percent complete for payment purposes.
Project Schedule	The Contractor's schedule used to manage the orderly and expeditious completion of the Work. The Project Schedule is initially the accepted Baseline Schedule, and is updated throughout the Project.



<u>Term</u>	<u>Definition</u>
Remaining Duration	The amount of time, in Work Days, the remaining scope of Work represented by an Activity is expected to take to complete, measured from the current Data Date.
Resource and Cost Loading	Values assigned for estimated dollars, manpower, equipment and/or materials necessary to complete the scope of Work represented by a specific Activity.
Recovery Schedule	A Recovery Schedule outlining and incorporating extraordinary efforts required to recover lost time with the aim of achieving completion of the Project within the stipulated contract Duration, plus authorized time extensions. In such case, special attention must be given to minimize delays as much as possible and must establish the nature of efforts; for instance, resources and equipment required, extended hours of work, weekend work, accelerated fabrication, required action(s) or effort(s) by the Contractor, its subcontractors, consultants, clients, end users and/or other concerned parties to recover the schedule.
Revised and/or Updated Schedule	A Baseline Schedule, Project Schedule, or Recovery Schedule for the Project that shows the actual Duration of all the completed Activities, including Duration of and the reasons for delays, if any have occurred, AND revisions to all remaining Activities of the Contractor and its subcontractors, including changes, if any, to logical ties, interrelations and the sequence of each of the outlined Activities. Any such revisions should be shown on the row just below the approved schedule of the respective Activity so that revisions can be compared. The Revised and/or updated Schedule must be reviewed and approved by the City.
Start Date	The earliest estimated date an Activity is calculated to begin, based on the estimated performance of all prior Activities to which the Activity is logically connected in a progressive relationship.
Time Impact Analysis	A forward looking (prospective) schedule analysis used to forecast the impact to the Critical Path and to Milestone Finish Dates caused by a single event or series of events. Time Impact Analysis is not a retrospective (forensic) schedule analysis or a what-if schedule analysis of a potential event.
Total Float	The amount of time the start or finish of an Activity can be delayed without affecting the Project completion date.
Work Breakdown Structure (WBS)	WBS is a deliverable-oriented decomposition of a Project into smaller components. A WBS provides the necessary framework for detailed cost estimating and control along with providing guidance for schedule development and control.
Work Days (WD)	Work Days are every consecutive day on the calendar, excluding weekends (Saturday and Sunday) and holidays.

1.5 PRELIMINARY, BASELINE, AND PROJECT SCHEDULE PREPARATION TIMELINE:

- A. Upon receipt of the NTP, the Contractor must promptly prepare a preliminary Project Schedule and subsequently a Baseline Schedule and must submit for the City's acceptance as follows:



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1. Submit the Contractor's CPM Scheduler's qualifications to the City for approval within seven (7) Days after NTP. The City will respond to the submittal within seven (7) Days of the submittal receipt.
2. The preliminary Project Schedule must be submitted no later than twenty-one (21) Days after NTP.
3. The initial submittal of the Baseline Schedule must be provided to the City for review no later than forty-five (45) Days after NTP.
4. The Contractor must incorporate all corrections and revisions required by the City and provide an updated version of the Baseline Schedule for review and acceptance no later than seventy-five (75) Days after NTP to ensure that the Baseline Schedule is accepted no later than ninety (90) Days after the NTP. The ninety (90) Days must include fourteen (14) Days review time by the City for each submittal of the Baseline Schedule.
5. Once accepted, the Baseline Schedule will be the basis of Project Schedule updates.

B. Remedies

1. Preliminary Project Schedule: The City will take a credit of three thousand dollars (\$3,000) if the preliminary Project Schedule is not submitted within twenty-one (21) Days of the NTP.
2. Acceptable Baseline Schedule: The City will take a credit of five thousand dollars (\$5,000) if an acceptable Baseline Schedule is not submitted within ninety (90) Days of the NTP.
3. Monthly Progress Schedule updates: The City will take a credit of two thousand dollars (\$2,000) for each schedule update not submitted within the period it was due.
4. Scheduling Firm Services: If an acceptable Baseline Schedule is not provided by the Contractor within ninety (90) Days of the NTP or three (3) updates are not provided by the Contractor during the period they are due, the City may engage the services of a scheduling firm to develop a Project schedule or update an existing schedule. The total cost of such services will be deducted from the monies due to the Contractor.
 - a. Any schedules and updates developed by such scheduling firm are for the City's sole use and do not, in any way, represent an acceptance of responsibility by the City to schedule the Work or relieve the Contractor of the obligation to complete the Work within the Durations specified by the Contract.
5. The City will only accept the submitted information after all corrections have been made and all issues have been resolved. The City may find the Contractor in default if items required by this Section are incomplete.

1.6 PRELIMINARY PROJECT SCHEDULE DEVELOPMENT:

- A. The preliminary Project Schedule must be a detailed plan (division level per Construction Specifications Institute (CSI) MasterFormat) of all operations, including submittals, permitting, testing, and construction Activities, for either the first ninety (90) Days after NTP or to the point where the Contractor plans to mobilize on site (whichever is greater). This submittal will also depict a summary level (section level per CSI MasterFormat) schedule of the major Activities for the remainder of the Work.
- B. The preliminary Project Schedule will be reviewed by the City and returned with comments, as necessary, within fourteen (14) Days of submittal receipt. Information from the preliminary Project Schedule will be the general foundation for development of the Baseline Schedule.



1.7 PROJECT SCHEDULE:

- A. The Baseline Schedule must show the sequence in which the Contractor proposes to perform the Work, and account for all major and intermediate Milestone Activities, phasing, restrictions of access, availability of work areas and the availability and use of labor, materials, and equipment.
- B. After the Baseline Schedule is approved, the Project Schedule must be the Contractor's working schedule and must be used to plan, organize, execute, and track the Project. The Project Schedule is the primary vehicle used to report actual performance, progress, and convey the Contractor's execution plan to complete all of the Work.
- C. The Project Schedule must show the sequence in which the Contractor proposes to perform the Work, and account for all major and intermediate Milestone Activities, phasing, restrictions of access, availability of work areas and the availability and use of labor, materials, and equipment.
- D. The Project Schedule must be the Contractor's working schedule used to plan, organize, execute, and track the Project. The Project Schedule is the primary vehicle used to report actual performance, progress, and convey the Contractor's execution plan to complete all remaining Work.
- E. All delay claims must be based on the current approved updates of the Project Schedule.
- F. The Contractor must confirm in writing that all subcontractors performing any portion of the Work are in agreement with the accepted Baseline Schedule and the monthly updates.
- G. The amount of detail represented in the Baseline and Project Schedule and supporting documents submitted must, at a minimum, include the following items :
 - 1. Contract Milestones must be identified and included in the Baseline and Project Schedule.
 - 2. All submittal, owner review & approval, purchase, manufacture, and delivery Activities for all major materials and equipment.
 - 3. Deliveries of owner-furnished equipment and/or materials.
 - 4. Preparation, submittal, and approval of drawings, material samples, and safety plans.
 - 5. Preparation, submittal, review, and approval of permits required by all regulatory agencies and other third parties.
 - 6. Performance of tests, submission of test reports, and approval of test results.
 - 7. Commissioning Activities for all commissioned systems and equipment is to be clearly delineated and scheduled such that they will be completed prior to Substantial Completion. Such Activities must include, at a minimum, Pre-Functional testing and check sheets; Testing, Adjusting, and Balancing (TAB) verification; Functional Testing, including testing of all controls; and Owner's demonstration and orientation.
 - 8. Completion dates of all items required for phased completion (if applicable).
 - 9. Completion dates of all items required for Substantial Completion.
 - 10. Completion dates of all items required to obtain a Temporary Certificate of Occupancy (TCO) and Certificate of Occupancy (CO).
 - 11. Completion dates for close-out of regulatory and punch list items prior to Final Acceptance and transfer of the Project.
 - 12. Any additional detail requested by the Commissioner.



- H. Activities identified in the Baseline and Project Schedule must have the Duration in units of whole Work Days. Construction Activity Durations must not exceed twenty (20) work days unless specifically approved by the City. This is to ensure that Activities are not generalized and that each Activity and sub-Activity are defined as narrowly as reasonable to facilitate schedule tracking. Durations for non-construction Activities such as procurement of materials, delivery of equipment, concrete curing, etc., may exceed twenty (20) work days without prior approval; however, these are still subject to review by the City. Durations must be based on the available resources required for performing each Activity and must be the result of definitive labor hours using established production rates, and with consideration of on-site working conditions. If requested by the City, the Contractor must justify the reasonableness of a planned Duration.
- I. Activity descriptions must use plain language that clearly and uniquely define each Activity. Each description must include a verb or work function (e.g. submit, form, pour etc.) an object (e.g. slab, foundation, etc.) and, for any construction Activities, a specific location. The Work related to each Activity must be limited to one responsibility and one trade.
- J. Activity relationships must be assigned to clearly establish predecessor and successor relationships to each Activity. Open-ended Activities are not permitted with the exception of the first and last Activities in the network, the first Activity being NTP and the last being Final Acceptance. The use of relationship lag times is discouraged and only permitted with prior approval by the City. The use of negative lag is never permitted.
- K. Activity constraint dates are only to be used to reflect contractual constraints unless specifically authorized by the City.
- L. Float or slack 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.
- M. Each resubmittal after the Project Schedule is delivered for acceptance must comply with all requirements of this section. Review and response by the City will be given within fourteen (14) Days after resubmission. The Contractor's receipt of the comments within the time specified must not in any way affect the Contractor's responsibility to complete the Project within the time fixed in Schedule A.
- N. Failure by the City to return comments or indicate acceptance status will in no way relieve the Contractor's obligation to submit monthly schedule updates.
- O. At the request of the City, the Contractor must be required to make a presentation to explain or clarify the intended logical sequence of construction Activities depicted in the detailed Project Schedule. The Contractor and designated scheduler must discuss anticipated challenges and outline construction methodology and flow of work to show how and when major Milestones will be achieved. In addition, the Contractor may, at no cost to the City, be required to participate in additional Project meetings necessary to obtain acceptance of the above noted submittals.

1.8 ACTIVITY AND CALENDAR CODING STRUCTURE:

- A. The Baseline and Project Schedules must contain a sufficient number of Activities to represent adequate planning and execution of the Work so that it shows an accurate flow of work and demonstrates an understanding of the Project by the Contractor.
- B. Activity ID and Calendar Coding
 - 1. The Contractor's proposed Activity and calendar coding and must be submitted with the preliminary Project Schedule. A meeting may be requested by the City to discuss the scheme and other schedule information prior to the submittal of the Project Schedule. The accepted coding scheme and WBS Structure must be incorporated into the Project Schedule.



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C. Activity ID Coding

1. All Activities/Resources/Calendars (Baseline and Project Schedules) must be coded inside the P6 Project Environment / Project Level (NOT the Global Environment/Enterprise Level) to facilitate selection, sorting and preparation of reports.
2. Activity coding must consist of the Project ID followed by a dash, followed by Activity coding (PROJECT ID-ACTIVITY CODE). Activity codes must be created at the Project level and must utilize the coding scheme outlined in the table below:

Activity Code	Meaning
RESP	<u>Responsibility</u> : Identify the party (e.g. Contractor, subcontractor, City, etc.) responsible for the Activity.
PHAS	<u>Phase</u> : Breakdown of Activities in Milestones, pre-construction, procurement, construction and close-out Activities.
LOCN	<u>Location</u> : Breakdown by floor or elevation.
AREA	<u>Area</u> : Breakdown by room, area, block or wing. May be used as a subdivision of PHAS to include Milestones, permits, subcontractor approvals, submittals, fabrication and delivery, and subdivision of the Site and buildings into Logical modules, such as by blocks, wings, etc.
TRAD	<u>Trade</u> : Breakdown by CSI Code or section number in the Specifications.

- a. Description of schedule Activities must include terminology that represents the scope of work associated with that particular Activity. Terminology used to describe similar actions must be consistent across all segments of work.
 - b. Naming convention for schedule Activities must be descriptive and indicate the associated work covered by the Activity. Activities must use a verb, noun, and location of the work in the Activity name.
3. Project Calendar Coding
 - a. All calendars created and assigned to Activities must be Project-level calendars. The Calendar Name must consist of the Project ID number followed by a dash, followed by a descriptive Calendar Name (PROJECT ID-CALENDAR NAME).

1.9 WORK BREAKDOWN STRUCTURE:

- A. A multi-level hierarchal WBS must be incorporated in all P6 schedules. An initial, proposed WBS must be submitted with the preliminary Project Schedule. The levels (nodes) must include, but not be limited to:
 1. LEVEL 01 – The Project Level.
 2. LEVEL 02 – Contains a minimum of four (4) nodes; Pre-Construction, Procurement, Construction or Phase of Construction, and Closeout.
 3. LEVEL 03 – Decomposition of each of the four (4) nodes in Level 02 into its constituent parts. This level must target specific, tangible, deliverable scopes of the Project Work.
- B. The Contractor's proposed WBS must be submitted with the preliminary Project Schedule. The accepted WBS must be incorporated into the Baseline and Project Schedule.



1.10 MAJOR MILESTONES:

- A. The schedule must include both contractual and non-contractual Milestones that are provided by the City. These Milestones must be properly associated with the related Work packages and maintained to represent the progress of the Project.

1.11 SHORT (THREE-WEEK) INTERVAL / TWO-WEEK LOOK-AHEAD:

- A. On a bi-weekly basis, the Contractor must provide a three (3) week short interval schedule in a format satisfactory to the City. The purpose of this schedule is to report the actual progress of the past week against the previous short interval look-ahead Activities and add any additional Activities planned for the next two (2) weeks. Electronic files and hard copies must be provided to the City on the first day of each work week with the prior week's actual progress included.
- B. Each Task listed on the short interval schedule must be representative of the most current Project Schedule Update and include a reference to an Activity shown on the current update.

1.12 SUBMITTALS:

- A. General
 - 1. Development of the Baseline Schedule and updating of the Project Schedule must follow the DCMA and AACE International guidelines.
 - 2. Each electronic submission of the Project Schedule must be assigned a unique file name consisting of the Project ID (as noted on the NTP followed by a dash followed by a unique file name clearly marked (i.e. ProjID- B000 = B/L rev0, ProjID-B001 = B/L rev01 etc.) to indicate the specific submission. Similarly, update submittals must be named ProjID-Uxxx where xxx is a sequential number, starting with 001, indicating the revision or issue number.
 - 3. The Contractor must provide all submittals in electronic format and two hard copies.
- B. Preliminary Project Schedule
 - 1. For acceptance of the preliminary Project Schedule the Contractor must submit the following:
 - a. Two (2) 11" x 17" hard copies of the proposed preliminary Project schedule, as well as the native electronic schedule data file, in .XER file format, per the direction of the City.
 - b. A Schedule Narrative Report detailing the Contractor's initial plan for executing the Contract work within the allotted Contract Duration, and include the following explanation of their provided preliminary schedule:
 - i. The proposed WBS;
 - ii. All proposed Project Calendars;
 - iii. All proposed Activity Codes, clearly defined;
 - iv. The proposed Activity ID format; and
 - v. Schedule basis narrative, which must memorialize assumptions made in the development of the schedule.
- C. Baseline Schedule
 - 1. The City will return comments within ten (10) Work Days after receipt of the initial Project Schedule Submission. If any of the required submissions are returned to the Contractor for corrections or revisions, they must be resubmitted within five (5) Work Days from receipt of



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comments. Each resubmittal must comply with the requirements enumerated above. Review and response by the City will be given within ten (10) Work Days after resubmission.

2. At the request of the City, the Contractor will be required to participate in Project meetings necessary to obtain an acceptance of the above noted submittals.
3. Baseline Schedule submittal must contain a Narrative Report. It must include the following, or as directed by the City:
 - a. A description of the Project scope and how the Work is represented in the schedule Activities;
 - b. A description of the overall sequence of major components of Work;
 - c. Planned work week for each definable feature of work;
 - d. Description of the Critical Path and near Critical Paths;
 - e. Basis of Durations, described in terms of quantity and production rate;
 - f. How weather will be accommodated in the schedule, including a description of the weather calendar and the Activities it is applied to, and the NOAA Inclement Weather data that defined the number of non-Work Days;
 - g. How regulatory, operational or third-party constraints are accommodated in the schedule;
 - h. Description of key Project coordination points or events;
 - i. Discussion of long lead items and basis of time frames for submittals;
 - j. Description of anticipated means and methods for large quantity production Activities; and,
 - k. Potential opportunities and risks, including quantification of the schedule reduction or expansion.

D. Project Schedule Updates

1. Every schedule submittal must be provided with a corresponding narrative. These schedule submittals and narratives are to be submitted in hard copy, as well as in the native electronic format, as attachments to emails or other media accepted by the City. When opened, the electronic format must provide flawless restoration of the native files (P6 (.XER) for Primavera schedule files and MS Word and/or Adobe Acrobat for Narrative and supporting document submittals).
2. For each submittal of the updated Project Schedule, the following layouts, reports, and graphics are required in the specified formats, unless otherwise directed by the City:
 - a. The Contractor must furnish two (2) 11" x 17" hard copies of the complete progress schedule with each initial schedule update and final update incorporating comments furnished by the City. Additionally, the Contractor must provide the native electronic schedule data file, in .XER file format, with the initial and final schedule update submission.
 - b. An Activity bar chart layout grouped by Activity Code and then sorted by Start Date, Finish Date, and then Total Float.
 - c. Each Activity line must display the Activity ID (Act ID), Description (Name), Original Duration (OD), Remaining Duration (RD), Start Date (ES), Finish Date (EF), and Total Float (TF), Baseline Original Duration (BL OD) Baseline Start (BL Start), Baseline Finish (BL Fin), Baseline Total Float (BL TF).



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- d. An Activities progress bar must show both current progress update ES and EF, and baseline ES and EF. The top line of the bar chart area must contain the updated ES and EF; the second line below must depict the accepted baseline ES and EF dates.
3. The City may request additional standard P6 reports from time to time at no additional cost.
4. The Monthly Update submittal must contain a Narrative Report. It must include the following, or as directed by the City:
 - a. Any changes to the schedule basis narrative
 - b. A discussion of progress through the update period and status of the Project with respect to completion of the schedule. The progress reporting must detail work Activities that relate to the Project's Critical Path and if these Activities are progressing as planned.
 - c. A discussion of changes, delays or other circumstances affecting Progress including identified risks and opportunities and the Contractor's strategy.
 - d. A listing and brief explanation of modifications to the previously submitted network including Logic changes and Activity additions, deletions or modifications.
 - e. An update on the status of long lead items and whether the item is on the Critical Path.
 - f. The Contractor must report on all out of sequence Activities, the cause of this deviation to plan, and the proposed resolution of this issue.
 - g. The Contractor must include an explanation of assumptions and exclusions made in developing the schedule update and narrative.
5. The Contractor must provide a copy of the computer file(s) in electronic format or other media accepted by the City. When opened, the electronic format must provide flawless restoration of the native files and an electronic copy of the Narrative Report.

1.13 PROJECT SCHEDULE UPDATING:

- A. The initial updating must take place immediately after the City accepts the Contractor's Baseline Schedule. The Data Date for the first update must not exceed seven (7) Days from the date of receipt of the accepted Baseline Schedule, or as directed by the City.
- B. Subsequent updates of the Project Schedule must be submitted monthly until Substantial Completion. The schedule data date must be the last Work Day of the period unless otherwise directed by the City. Updates must be provided to the City no later than seven (7) Days after the 'schedule Data Date'.
- C. Updates must reflect actual or reasonably anticipated progress as of the last Work Day of the period.
- D. The City may request meetings with the Contractor to review the Project Schedule and Narrative and jointly verify Project health and information.
- E. In addition, the City may request meetings with the Contractor's scheduling representative to:
 1. Resolve out-of-sequence Logic;
 2. Should out-of-sequence progress occur where Activities have reported progress without predecessor Activities being completed, the Contractor must obtain the City's approval in a Proposed Schedule before revising the Logic ties to reflect the way the Work is actually being performed. Use of progress override by default mechanisms that may be included in CPM scheduling software systems will not be allowed except on a case-by-case basis with the approval of the City. A written explanation for each instance must be included in the monthly submittal narrative.
 3. Assess the impact, if any, of any pending change orders.
 4. Incorporate accepted time extensions.



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5. Review revised Logic (as-built and projected) and changes in Activity Duration, cost, and labor hours assigned.
- F. Contractor's failure to provide required scheduling information within the required timeframe or to adhere to the currently accepted schedule may result in rejection of all or a portion of the progress payment until such time as the required schedule information is submitted and accepted by the City.
- G. Delays to the Critical Path – Whenever it becomes apparent from the monthly CPM schedule update that delays to the Critical Path have occurred due to action or inaction of the Contractor and, as a result, the date for Substantial Completion will not be met, the Contractor must promptly take some or all of the following actions at no additional cost to the City, unless otherwise directed by the City:
 1. Increase construction manpower in such quantities and crafts as will substantially eliminate the backlog of Work.
 2. Increase the number of working hours per shift, shifts per day, or Work Days per week; the amount of construction equipment; the forms for concrete work; etc., or any combination of the foregoing to substantially eliminate the backlog of Work.
 3. Reschedule Activities to achieve maximum practical concurrence of accomplishment of Activities and comply with the revised schedule.
 4. Submit to the City for review a written statement of the steps the Contractor intends to take to remove or arrest the delay to the schedule.
 5. Add to its equipment and materials or construction forces, as well as increase the working hours, if operations for critical, less critical or non-critical Activities fall behind the Contractor's Baseline Schedule at any time during the construction period.
- H. The City may, at any time during the Project and at no additional cost to the City, require the Contractor to develop a more detailed schedule/ Fragnet than depicted in the Baseline Schedule to provide a clearer understanding of the effort needed to complete an Activity or group of Activities.
- I. If the City determines that either the Critical Path is in the negative by four (4) weeks, or that the Project's date for completion may be affected, the Contractor may be required, at no additional cost to the City, to prepare a Recovery Schedule. Such Recovery Schedule is subject to review and acceptance by the City.
 1. The recovery schedule must propose alternative methods, overtime, and other means available to the Contractor to recover the delays incurred to date.
 2. The Recovery Schedule must be resource-loaded with manpower and equipment required to bring the date for Substantial Completion back into compliance.
- J. The Contractor must submit an "As-Built Schedule", as the last schedule update showing all Activities, with the exception of punch list and closeout tasks, at Substantial Completion. This schedule must reflect the exact manner in which the Project was actually constructed.



1.14 TIME IMPACT ANALYSIS:

- A. In addition to the requirements of the Standard Construction Contract Article 11, the Contractor must submit a Time Impact Analysis to the Engineer with all requests for time extension.
- B. The Time Impact Analysis must include a written narrative and supporting impact schedule Fragnet detailing the Project delays resulting from the alleged delay. The impact schedule Fragnet, separate and distinct from the Progress Schedule update, must demonstrate that the changes or anticipated delays affect Activities of the current accepted Progress Schedule. The impact schedule will be incorporated into the Progress Schedule only after it is accepted by the Commissioner and a time extension is approved. The Fragnet submitted as part of the Time Impact Analysis must illustrate the impact of these changes or delays on the date for Substantial Completion.

PART II – PRODUCTS (Not Used)

PART III – EXECUTION (Not Used)

END OF SECTION 01 32 16.20



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**SECTION 01 32 16.30
PROJECT SCHEDULES (METHOD C)**

REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SECTION 01 32 16.30

PART 1 – GENERAL

1.1 RELATED DOCUMENTS:

- A. The following documents apply to all required work for the Project: (1) the Contract Drawings, (2) the Specifications, (3) the General Conditions, (4) the Addendum, and (5) the Contract [City of New York Standard Construction Contract].

1.2 SUMMARY:

- A. This section includes the following:
1. Methods
 2. Definitions
 3. Preliminary, Baseline, and Project Schedule Preparation Timeline
 4. Preliminary Project Schedule Development
 5. Project Schedule
 6. Activity and Calendar Coding Structure
 7. Work Breakdown Structure (WBS)
 8. Major Milestones
 9. Short (Three-Week) Interval/Two-Week Look-Ahead
 10. Submittals
 11. Project Schedule Updating
 12. Time Impact Analysis

1.3 METHODS:

- A. The Contractor must comply with Project schedule development and updating requirements as specified herein.
1. The Contractor must employ or retain the services of a Construction Scheduler with verifiable construction scheduling experience, subject to review and acceptance by the City. Upon request, the Contractor must provide the City with qualifications and experience of the proposed scheduling staff member(s).
 2. The Contractor must prepare, update, and maintain a detailed Project Schedule using a version of scheduling software that is compatible with the City's Oracle Primavera P6 Enterprise Project Portfolio Management (EPPM). All schedule submittals must be developed using Oracle's Primavera P6 EPPM software. Schedules must be developed using accepted CPM techniques using the Precedence Diagramming Method (PDM). The Project Schedule must be developed following Defense Contract Management Agency (DCMA), and American Association of Cost Engineering International (AACE International) guidance. The Contractor will be required to use the Contractor's own P6 license (whether single-user or Enterprise



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- license), unless otherwise directed by the Commissioner. If directed by the Commissioner prior to the Notice to Proceed (NTP), the Contractor must use the Department's P6 Enterprise license and develop the Progress Schedule within the Department's Enterprise environment.
3. Once the Baseline Schedule is accepted by the City, progress updates to the Project Schedule must be submitted monthly, unless otherwise directed by the City, until Substantial Completion. The Data Date for the schedule updates must use the last Friday of the month, or as directed by the City.
 4. The Contractor must be responsible for providing the monthly schedule updates once the Baseline Schedule is approved. Each monthly schedule update must be accompanied with a schedule narrative that explains the following:
 - a) The progress of work during that particular period of performance;
 - b) Any changes in schedule Logic;
 - c) The physical conditions that were used to update every Activities Percent Complete;
 - d) Any change in actual Start and Finish Dates;
 - e) Any Duration changes;
 - f) Any added and deleted Activities; and
 - g) Any added Extra Work (e.g., change orders).

1.4 DEFINITIONS:

- A. Refer to Article 2 of the Contract for definition of terms, words and expressions used in the General Conditions not otherwise defined herein.

<u>Term</u>	<u>Definition</u>
Activity	A representation of a discrete portion of the overall scope of Work or an event through Duration and description in a CPM schedule.
Baseline Schedule	The planned and detailed CPM schedule of Activities, including all Logic, Durations, Resource and Cost Loading, and showing the entire scope of Work. The Baseline Schedule must be accepted by the City.
Critical Path	The longest sequence of Activities in a network which establishes the minimum length of time for accomplishment of the end event of the Project.
Critical Path Method (CPM)	A management technique used to plan and control a project which combines all relevant information into a single plan defining the sequence and Duration of operations and depicting the interrelationship of the Work elements required to complete the Project.
Current Schedule	The most recently updated schedule that captures progress to date and forecasts the dates for each Activity.
Data Date	The date used as a starting point for scheduling calculations. The Data Date is changed to the current end of period date when a schedule is updated for progress.



<u>Term</u>	<u>Definition</u>
Duration	The amount of time, in workdays, an Activity will take to perform.
Finish Date	The earliest estimated date an Activity is calculated to be complete, based on the estimated performance of all prior Activities to which the Activity is logically connected in a progressive relationship.
Free Float	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. (See Finish Date and Late Finish).
Fragnet	Fragmentary network: a portion of a schedule detailing impacts of an event on specific Activities in the broader schedule.
Inclement Weather	Any weather condition, the duration of which varies in excess of the 3-year average published by the National Oceanic and Atmospheric Administration (NOAA) information for the local area.
Integrated Project Schedule	The Commissioner's overall schedule covering design, procurement, and construction. The Commissioner will use the Contractor's Project Schedule to update the Integrated Project Schedule.
Late Finish	An estimate of the latest plausible date an Activity's completion can be postponed without rendering as unachievable the required completion of any downstream Milestones to which the Activity is Logically connected to in a progressive relationship.
Late Start	An estimate of the latest plausible date an Activity's start can be postponed without rendering as unachievable the required completion of any downstream Milestones to which the Activity is Logically connected to in a progressive relationship.
Logic	A direct progressive relationship between Activities where one Activity's performance restricts the performance of another Activity.
Milestone	A key or critical point in time for reference or measurement.
Network Diagram	A graphic diagram of a network schedule, showing Activities and Activity relationships.
Original Duration	The estimated amount of time, in Work Days, an Activity is expected to take to complete at the beginning of a project as anticipated by the Contractor based on its planned means and methods at time of bid and documented in the Baseline Schedule.
Percent Complete	The percentage of the scope of Work represented by an Activity completed as of the Data Date calculated as physical percent complete for payment purposes.



<u>Term</u>	<u>Definition</u>
Project Schedule	The Contractor's schedule used to manage the orderly and expeditious completion of the Work. The Project Schedule is initially the accepted Baseline Schedule, and is updated throughout the Project.
Remaining Duration	The amount of time, in Work Days, the remaining scope of Work represented by an Activity is expected to take to complete, measured from the current Data Date.
Resource and Cost Loading	Values assigned for estimated dollars, manpower, equipment and/or materials necessary to complete the scope of Work represented by a specific Activity.
Recovery Schedule	A Recovery Schedule outlining and incorporating extraordinary efforts required to recover lost time with the aim of achieving completion of the Project within the stipulated contract Duration, plus authorized time extensions. In such case, special attention must be given to minimize delays and must establish the nature of efforts; for instance, resources and equipment required, extended hours of work, weekend work, accelerated fabrication, required action(s) or effort(s) by the Contractor, its subcontractors, consultants, clients, end users and/or other concerned parties to recover the schedule.
Revised and/or Updated Schedule	A Baseline Schedule, or Progress Project Schedule, or Recovery Schedule for the Project that shows the actual Duration of all the completed Activities, including Duration of and the reasons for delays, if any have occurred, AND revisions to all remaining Activities of the Contractor and its subcontractors, including changes, if any, to logical ties, interrelations and the sequence of each of the outlined Activities. Any such revisions should be shown on the row just below the approved schedule of the respective Activity so that revisions can be compared. The Revised and/or updated Schedule must be reviewed and approved by the City.
Start Date	The earliest estimated date an Activity is calculated to begin, based on the estimated performance of all prior Activities to which the Activity is logically connected in a progressive relationship.
Time Impact Analysis	A forward looking (prospective) schedule analysis used to forecast the impact to the Critical Path and to Milestone Finish Dates caused by a single event or series of events. Time Impact Analysis is not a retrospective (forensic) schedule analysis or a what-if schedule analysis of a potential event.
Total Float	The amount of time the start or finish of an Activity can be delayed without affecting the Project completion date.



<u>Term</u>	<u>Definition</u>
Work Breakdown Structure (WBS)	WBS is a deliverable-oriented decomposition of a Project into smaller components. A WBS provides the necessary framework for detailed cost estimating and control along with providing guidance for schedule development and control.
Work Days (WD)	Work Days are every consecutive day on the calendar, excluding weekends (Saturday and Sunday) and holidays.

1.5 PRELIMINARY, BASELINE, AND PROJECT SCHEDULE PREPARATION TIMELINE:

- A. Upon receipt of the NTP, the Contractor must promptly prepare a preliminary Project Schedule and subsequently a Baseline Schedule and must submit for the City's acceptance as follows:
1. Submit the Contractor's CPM Scheduler's qualifications to the City for approval within seven (7) Days after NTP. The City will respond to the submittal within seven (7) Days of the submittal receipt.
 2. The preliminary Project Schedule must be submitted no later than twenty-one (21) Days after NTP.
 3. The initial submittal of the Baseline Schedule must be provided to the City for review no later than forty-five (45) Days after NTP.
 4. The Contractor must incorporate all corrections and revisions required by the City and provide an updated version of the Baseline Schedule for review and acceptance no later than seventy-five (75) Days after NTP to ensure that the Baseline Schedule is accepted no later than ninety (90) Days after the NTP. The ninety (90) Days must include fourteen (14) Days review time by the City for each submittal of the Baseline Schedule.
 5. Once accepted, the Baseline Schedule will be the basis of Project Schedule updates.
- B. Remedies
1. Preliminary Project Schedule: The City will take a credit of three thousand dollars (\$3,000) if the preliminary Project Schedule is not submitted within twenty-one (21) Days of the NTP.
 2. Acceptable Baseline Schedule: The City will take a credit of five thousand dollars (\$5,000) if an acceptable Baseline Schedule is not submitted within ninety (90) Days of the NTP.
 3. Monthly Progress Schedule updates: The City will take a credit of two thousand dollars (\$2,000) for each schedule update not submitted within the period it was due.
 4. Scheduling Firm Services: If an acceptable Baseline Schedule is not provided by the Contractor within ninety (90) Days of the NTP or three (3) updates are not provided by the Contractor during the period they are due, the City may engage the services of a scheduling firm to develop a Project schedule or update an existing schedule. The total costs of such services will be deducted from the monies due to the Contractor.
 5. Any schedules and updates developed by such scheduling firm are for the City's sole use and do not, in any way, represent an acceptance of responsibility by the City to schedule the Work or relieve the Contractor of the obligation to complete the Work within the Durations specified by the Contract.



6. The City will only accept the submitted information after all corrections have been made and all issues have been resolved. The City may find the Contractor in default if items required by this Section are incomplete.

1.6 PRELIMINARY PROJECT SCHEDULE DEVELOPMENT:

- A. The preliminary Project Schedule must be a detailed plan (division level per Construction Specifications Institute (CSI) MasterFormat) of all operations, including submittals, permitting, testing, and construction Activities, for either the first ninety (90) Days after NTP or to the point where the Contractor plans to mobilize on site (whichever is greater). This submittal will also depict a summary level (section level per CSI MasterFormat) schedule of the major Activities for the remainder of the Work.
- B. The preliminary Project Schedule will be reviewed by the City and returned with comments, as necessary, within fourteen (14) Days of submittal receipt. Information from the preliminary Project Schedule will be the general foundation for development of the Baseline Schedule.

1.7 PROJECT SCHEDULE:

- A. The Baseline Schedule must show the sequence in which the Contractor proposes to perform the Work, and account for all major and intermediate Milestone Activities, phasing, restrictions of access, availability of work areas and the availability and use of labor, materials, and equipment.
- B. After the Baseline Schedule is approved, the Project Schedule must be the Contractor's working schedule and must be used to plan, organize, execute and track the Project. The Project Schedule is the primary vehicle used to report actual performance, progress, and convey the Contractor's execution plan to complete the Work.
- C. The Project Schedule must show the sequence in which the Contractor proposes to perform the Work, and account for all major and intermediate Milestone Activities, phasing, restrictions of access, availability of work areas and the availability and use of labor, materials, and equipment.
- D. The Project Schedule must be the Contractor's working schedule used to plan, organize, execute, and track the Project. The Project Schedule is the primary vehicle used to report actual performance, progress, and convey the Contractor's execution plan to complete all remaining Work.
- E. All delay claims must be based on the current approved updates of the Project Schedule.
- F. The Contractor must confirm in writing that all subcontractors performing any portion of the Work are in agreement with the accepted Baseline Schedule and the monthly updates.
- G. The amount of detail represented in the Baseline and Project Schedule and supporting documents submitted must, at a minimum, include the following, items:
 1. Contract Milestones must be identified and included in the Baseline and Project Schedule.
 2. All submittal, owner review & approval, purchase, manufacture, and delivery Activities for all major materials and equipment.
 3. Deliveries of owner-furnished equipment and/or materials.
 4. Preparation, submittal, and approval of drawings, material samples, and safety plans.
 5. Preparation, submittal, review, and approval of permits required by all regulatory agencies and other third parties.
 6. Performance of tests, submission of test reports, and approval of test results.



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7. Commissioning Activities for all commissioned systems and equipment is to be clearly delineated and scheduled such that they will be completed prior to Substantial Completion. Such Activities must include, at a minimum, Pre-Functional testing and check sheets; Testing, Adjusting, and Balancing (TAB) verification; Functional Testing, including testing of all controls; and Owner's demonstration and orientation.
 8. Completion dates of all items required for phased completion (if applicable).
 9. Completion dates of all items required for Substantial Completion.
 10. Completion dates of all items required to obtain a Temporary Certificate of Occupancy (TCO) and Certificate of Occupancy (CO).
 11. Completion dates for close-out of regulatory and punch list items prior to Final Acceptance and transfer of the Project.
 12. Any additional detail requested by the Commissioner.
- H. Activities identified in the Baseline and Project Schedule must have the Duration in units of whole Work Days. Construction Activity Durations must not exceed twenty (20) Work Days unless specifically approved by the City. This is to ensure that Activities are not generalized and that each Activity and sub-Activity are defined as narrowly as reasonable to facilitate schedule tracking. Durations for non-construction Activities such as procurement of materials, delivery of equipment, concrete curing, etc. may exceed twenty (20) Work Days without prior approval; however, these are still subject to review by the City. Durations must be based on the available resources required for performing each Activity and must be the result of definitive labor hours using established production rates, and with consideration of on-site working conditions. If requested by the City, the Contractor must justify the reasonableness of a planned Duration.
- I. Activity descriptions must use plain language that clearly and uniquely defines each Activity. Each description must include a verb or work function (e.g. submit, form, pour etc.), an object (e.g. slab, foundation, etc.) and, for any construction Activities, a specific location. The Work related to each Activity must be limited to one responsibility and one trade.
- J. Activity relationships must be assigned to clearly establish predecessor and successor relationships to each Activity. Open-ended Activities are not permitted with the exception of the first and last Activities in the network, the first Activity being NTP and the last being Final Acceptance. The use of relationship lag times is discouraged and only permitted with prior approval by the City. The use of negative lag is never permitted.
- K. Activity constraint dates are only to be used to reflect contractual constraints unless specifically authorized by the City.
- L. Float or slack, 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.
- M. Each resubmittal after the Project Schedule is delivered for acceptance must comply with all requirements of this section. Review and response by the City will be given within fourteen (14) Days after resubmission. The Contractor's receipt of the comments within the time specified must not, in any way, affect the Contractor's responsibility to complete the Project within the time fixed in Schedule A.
- N. Failure by the City to return comments or indicate acceptance status will in no way relieve the Contractor's obligation to submit monthly schedule updates.
- O. At the request of the City, the Contractor must be required to make a presentation to explain or clarify the intended logical sequence of construction Activities depicted in the detailed Project Schedule. The Contractor and designated scheduler must discuss anticipated challenges and outline construction methodology and flow of work to show how and when major Milestones will be achieved. In addition,



the Contractor may, at no cost to the City, be required to participate in additional Project meetings necessary to obtain acceptance of the above-noted submittals.

- P. The Contractor must provide a Cost Flow Projection (CFP) summary covering from NTP to Final Acceptance. The CFP summary must match the expected billings for each period of performance.

REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 1.7.Q

- Q. Schedule Cost and Resource Loading
1. At the direction of the City, and at no additional cost to the City, a Project Schedule must be cost loaded within thirty (30) Days after acceptance of the Baseline Schedule.
 2. The Contractor must accurately load all Project Activities with direct field labor associated with the craft or trades required to complete that Activity. All labor must be noted in manhours required to complete the tasking. The Contractor must include in all Activities the hours required of for major pieces of equipment.
 3. All Resource ID's must have a unique identifier assigned by the Contractor, and approved by the City, so the Project-specific data can be separated from other data in the system.
 4. Cost loading must be accomplished by adding a single summary level cost loaded Activity in the Project Schedule. This Activity will allow initial generation and monthly updates of the planned value that is time-phased into monthly periods.
 5. The intent of the cost loading is to facilitate cost forecasting, tracking, and reporting of monthly cost projection. Every month, the cost loaded summary Activity must be updated with earned value for prior months and revised monthly forecast for future periods. If there is a significant difference between the actual cumulative monthly invoice and the cumulative planned value from the cost loaded Project Schedule for any reporting month, the Contractor must provide the City with the reason for variance in the schedule narrative.

1.8 ACTIVITY AND CALENDAR CODING STRUCTURE:

- A. The Baseline and Project Schedules must contain a sufficient number of Activities to represent adequate planning and execution of the Work so that it shows an accurate flow of work and demonstrates an understanding of the Project by the Contractor.
- B. Activity ID and Calendar Coding
1. The Contractor's proposed Activity and calendar coding and must be submitted with the preliminary Project Schedule. A meeting may be requested by the City to discuss the scheme and other schedule information prior to the submittal of the Project Schedule. The accepted coding scheme and WBS Structure must be incorporated into the Project Schedule.
- C. Activity ID Coding
1. All Activities/Resources/Calendars (Baseline and Project Schedules) must be coded inside the P6 Project Environment / Project Level (NOT the Global Environment/Enterprise Level) to facilitate selection, sorting and preparation of reports.
 2. Activity coding must consist of the Project ID followed by a dash, followed by Activity coding (PROJECT ID-ACTIVITY CODE). Activity codes must be created at the Project level and must utilize the coding scheme outlined in the table below:



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Activity Code	Meaning
RESP	<u>Responsibility</u> : Identify the party (e.g. Contractor, subcontractor, City, etc.) responsible for the Activity.
PHAS	<u>Phase</u> : Breakdown of Activities in Milestones, pre-construction, procurement, construction and close-out Activities.
LOCN	<u>Location</u> : Breakdown by floor or elevation.
AREA	<u>Area</u> : Breakdown by room, area, block or wing. May be used as a subdivision of PHAS to include Milestones, permits, subcontractor approvals, submittals, fabrication and delivery, and subdivision of the Site and buildings into Logical modules, such as by blocks, wings, etc.
TRAD	<u>Trade</u> : Breakdown by CSI Code or section number in the Specifications.

- a. Description of schedule Activities must include terminology that represents the scope of work associated with that particular Activity. Terminology used to describe similar actions must be consistent across all segments of work.
 - b. Naming convention for schedule Activities must be descriptive and indicate the associated work covered by the Activity. Activities must use a verb, noun, and location of the work in the Activity name.
3. Project Calendar Coding
- a. All calendars created and assigned to Activities must be Project-level calendars. The Calendar Name must consist of the Project ID number followed by a dash, followed by a descriptive Calendar Name (PROJECT ID-CALENDAR NAME).

1.9 WORK BREAKDOWN STRUCTURE:

- A. A multi-level hierarchal WBS must be incorporated in all P6 schedules. An initial, proposed WBS must be submitted with the preliminary Project Schedule. The levels (nodes) must include, but not be limited to:
 1. LEVEL 01 – The Project Level.
 2. LEVEL 02 – Contains a minimum of four (4) nodes: Pre-Construction, Procurement, Construction or Phase of Construction, and Closeout.
 3. LEVEL 03 – Decomposition of each of the four (4) nodes in Level 02 into its constituent parts. This Level must target specific, tangible, scopes of the Project Work.
 4. LEVEL 04 – Decomposition of Level 03 Activities providing work package details that provide an understanding of the process to be used to execute the Project Work.
- B. The Contractor's proposed WBS must be submitted with the preliminary Project Schedule. The accepted WBS must be incorporated into the Baseline and Project Schedule.

1.10 MAJOR MILESTONES:

- A. The schedule must include both contractual and non-contractual Milestones that are provided by the City. These Milestones must be properly associated with the related Work and maintained to represent the progress of the Project.



1.11 SHORT (THREE-WEEK) INTERVAL / TWO-WEEK LOOK-AHEAD:

- A. On a weekly basis, the Contractor must provide a three (3) week short interval schedule in a format satisfactory to the City. The purpose of this schedule is to report the actual progress of the past week against the previous short interval look-ahead Activities and add any additional Activities planned for the next two (2) weeks. Electronic and hard copies must be provided to the City on the first day of each work week with the prior week's actual progress included.
- B. Each task listed on the short interval schedule must be representative of the most current Project Schedule Update and include a reference to an Activity shown on the current update.

1.12 SUBMITTALS:

- A. General
 - 1. Development of the Baseline Schedule and updating of the Project Schedule must follow the DCMA and AACE International guidelines.
 - 2. Each electronic submission of the Project Schedule must be assigned a unique file name consisting of the Project ID (as noted on the NTP), followed by a dash followed by a unique file name clearly marked (i.e. ProjID- B000 = B/L rev0, ProjID-B001 = B/L rev01 etc.) to indicate the specific submission. Similarly, update submittals must be named ProjID-Uxxx where xxx is a sequential number, starting with 001, indicating the revision or issue number.
 - 3. The Contractor must provide all submittals in electronic format and two hard copies.
- B. Preliminary Project Schedule
 - 1. For acceptance of the preliminary Project Schedule, the Contractor must submit the following:
 - a. Two (2) 11" x 17" hard copies of the proposed preliminary Project Schedule, as well as the native electronic schedule data file, in .XER file format, per the direction of the City.
 - b. A Schedule Narrative Report detailing the Contractor's initial plan for executing the Contract work within the allotted Contract Duration, and include the following explanation of their provided preliminary schedule:
 - i. The proposed (WBS);
 - ii. All proposed Project Calendars;
 - iii. All proposed Activity Codes, clearly defined;
 - iv. The proposed Activity ID format; and
 - v. Schedule basis narrative, which must memorialize the assumptions made in the development of the schedule.
- C. Baseline Schedule
 - 1. The City will return comments within ten (10) Work Days after receipt of the initial Project Schedule Submission. If any of the required submissions are returned to the Contractor for corrections or revisions, they must be resubmitted within five (5) Work Days from receipt of comments. Each resubmittal must comply with the requirements enumerated above. Review and response by the City will be given within ten (10) Work Days after resubmission.
 - 2. At the request of the City, the Contractor will be required to participate in Project meetings necessary to obtain an acceptance of the above noted submittals.
 - 3. Baseline Schedule submittal must contain a Narrative Report. It must include the following, or as directed by the City:



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- a. A description of the Project scope and how the Work is represented in the schedule Activities;
 - b. A description of the overall sequence of major components of Work;
 - c. Planned work week for each definable feature of work.
 - d. Description of the Critical Path and near Critical Paths;
 - e. Basis of Durations, described in terms of quantity and production rate;
 - f. How weather will be accommodated in the schedule, including a description of the weather calendar and the Activities it is applied to, and the NOAA Inclement Weather data that defined the number of non-work days;
 - g. How regulatory, operational or third-party constraints are accommodated in the schedule;
 - h. Description of key Project coordination points or events;
 - i. Discussion of long lead items and basis of time frames for submittals;
 - j. Description of anticipated means and methods for large quantity production Activities;
 - k. Potential opportunities and risks, including quantification of the schedule reduction or expansion; and
 - l. Assumptions/exclusions made in the schedule.
- D. Project Schedule Updates
1. Every schedule submittal must be provided with a corresponding narrative. These schedule submittals and narratives must be submitted in hard copy and the native electronic format as attachments to emails or other media accepted by the City. When opened, the electronic format must provide flawless restoration of the native files (P6 (.XER) for Primavera schedule files and MS Word and/or Adobe Acrobat for narrative and supporting document submittals).
 2. For each submittal of the updated Project Schedule, the following layouts, reports, and graphics are required in the specified formats, unless otherwise directed by the City:
 - a. The Contractor must furnish two (2) 11" x 17" hard copies of the complete progress schedule with each initial schedule update and final update incorporating comments furnished by the City. Additionally, the Contractor must provide the native electronic schedule data file, in .XER file format with the initial and final schedule update submission.
 - b. An Activity bar chart Layout grouped by Activity Code and then sorted by Start Date, Finish Date, and Total Float.
 - c. Each Activity line must display the Activity ID (Act ID), Description (Name), Original Duration (OD), Remaining Duration (RD), Start Date (ES), Finish Date (EF), and Total Float (TF), Baseline Original Duration (BL OD), Baseline Start (BL Start), Baseline Finish (BL Fin), Baseline Total Float (BL TF).
 - d. An Activities progress bar must show both current progress update ES and EF, and baseline ES and EF. The top line of the bar chart area must contain the updated ES and EF; the second line below must depict the accepted baseline ES and EF dates.
 3. The City may request additional standard P6 reports from time to time at no additional cost.
 4. The Monthly Update submittal must contain a Narrative Report. It must include the following, or as directed by the City:



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- a. Any changes to the schedule basis narrative;
- b. Overall health of the Project;
- c. Actual Activity Start Dates;
- d. Actual Activity Finish Dates;
- e. The physical conditions that were used to update Activities percent complete
- f. Percent of Work reported in place;
- g. Contract and Milestone completion date status:
 - i. Number of Days ahead or behind schedule; and
 - ii. Days lost/gained compared with the previous update.
- h. Schedule change report organized by Milestone and area comparing the number of Activities that were planned to start and finish to the number that actually started and finished for the reporting period;
- i. Lookahead report listing each Activity in the CPM schedule that is scheduled to be performed during the next reporting period;
- j. Plans for executing scheduled Activities during the next reporting period;
- k. Analysis, organized by Milestone and area, of the Critical Path and near Critical Path(s) describing:
 - i. The nature of the Critical Path/near Critical Path;
 - ii. Impact on other Activities, Milestones and Finish dates; and
 - iii. Identify, or update, risks and opportunities that may impact the Critical Path/near Critical Paths.
- l. List of current and anticipated delays by Milestone:
 - i. Cause of the delay;
 - ii. Corrective actions and schedule adjustments to correct the delay;
 - iii. Impact of the delay on other Activities, Milestones and completion dates; and
 - iv. Weather delays, when applicable. The Contractor must describe how the impacts of weather conditions and constraints were absorbed and accounted for in the schedule.
- m. Changes in Activity description, Logic, or Duration must be submitted as a separate Proposed Schedule and approved by the City prior to being submitted as an official update. Once allowed, said changes must be grouped and organized in the report in a manner that communicates in detail the rationale associated with each change and the impact upon construction sequence, relationships and the Critical Path. A standard Digger Report is not sufficient to meet this requirement;
- n. Added/deleted Activities and the rationale associated with each action;
- o. Pending issues and status of other items;
- p. Permits;
- q. Contract modifications;
- r. Current and potential extra Work, including change orders;
- s. Status of long lead procurement items and whether the item is on the Critical Path;
- t. Status of Project submittals;



- u. Out of sequence report describing the necessity of each Activity relationship shown therein, as described within this Section;
- v. Illogical progress/restraint reports (if any);
- w. Other Project or scheduling concerns;
- x. Electronic copy of the latest CPM schedule update file in Primavera (.XER) format; and
- y. Primavera scheduling error report.

1.13 PROJECT SCHEDULE UPDATING:

- A. The initial updating must take place immediately after the City accepts the Contractor's Baseline Schedule. The Data Date for the first update must not exceed seven (7) Days from the date of receipt of the accepted Baseline Schedule, or as directed by the City.
- B. Subsequent updates to the Project Schedule must be submitted monthly until Substantial Completion is achieved. The schedule Data Date must be set to the last Work Day of the period unless otherwise directed by the City. Updates must be provided to the City no later than seven (7) Days after the 'schedule Data Date'.
- C. Updates must reflect actual or reasonably anticipated progress as of the last Work Day of the period.
- D. The City may request meetings with the Contractor to review the Project Schedule and narrative and jointly verify Project health and information.
- E. In addition, the City may request meetings with the Contractor's scheduling representative to:
 - 1. Resolve out-of-sequence Logic.
 - 2. Should out-of-sequence progress occur where Activities have reported progress without predecessor Activities being completed, the Contractor must obtain the City's approval in a Proposed Schedule before revising the Logic ties to reflect the way the Work is actually being performed. Use of progress override by default mechanisms that may be included in CPM scheduling software systems will not be allowed except on a case-by-case basis with the approval of the City. A written explanation for each instance must be included in the monthly submittal narrative.
 - 3. Assess the impact, if any, of any pending change orders.
 - 4. Incorporate accepted time extensions.
 - 5. Review revised Logic (as-built and projected) and changes in Duration, cost, and labor hours assigned.
- F. Contractor's failure to provide required scheduling information within the required timeframe or to adhere to the currently accepted schedule may result in rejection of all or a portion of the progress payment until such time as the required schedule information is submitted and accepted by the City.
- G. Delays to the Critical Path – Whenever it becomes apparent from the monthly CPM schedule update that delays to the Critical Path have occurred due to action or inaction of the Contractor, and as a result the date for Substantial Completion will not be met, the Contractor must promptly take some or all of the following actions at no additional cost to the City, unless otherwise directed by the City:
 - 1. Increase construction manpower in such quantities and crafts as will substantially eliminate the backlog of Work.



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2. Increase the number of working hours per shift, shifts per day, or Work Days per week; the amount of construction equipment; the forms for concrete work; etc., or any combination of the foregoing to substantially eliminate the backlog of Work.
 3. Reschedule Activities to achieve maximum resource utilization across the Project and comply with the revised schedule.
 4. Submit to the City a written statement of the steps the Contractor intends to take to remove or arrest the delay to the schedule. The Contractor must promptly provide the necessary level of effort to bring the Work back on schedule.
 5. Add to its equipment and materials or construction forces, as well as increase the working hours, if operations for critical, less critical, or non-critical Activities fall behind the Contractor's Baseline Schedule at any time during the construction period.
- H. The City may, at any time during the Project and at no additional cost to the City, require the Contractor to develop a more detailed schedule/Fragnet than depicted in the Baseline Schedule to provide a clearer understanding of the effort needed to complete an Activity or group of Activities.
- I. If the City determines that either the Critical Path is in the negative by four (4) weeks, or that the Project's date for completion may be affected, the Contractor may be required, at no additional cost to the City, to prepare a Recovery Schedule. Such Recovery Schedule is subject to review and acceptance by the City. The Recovery Schedule must propose alternative methods, overtime, and other means available to the Contractor to recover the delays incurred to date.
- J. The Contractor must submit an "As-Built Schedule", as the last schedule update showing all Activities, with the exception of punch list and closeout tasks, at Substantial Completion. This schedule must reflect the exact manner in which the Project was actually constructed.

1.14 TIME IMPACT ANALYSIS:

- A. In addition to the requirements of the Standard Construction Contract Article 11, the Contractor must submit a Time Impact Analysis to the Engineer with all requests for time extension.
- B. The Time Impact Analysis must include a written narrative and supporting impact schedule Fragnet detailing the Project delays resulting from the alleged delay. The impact schedule Fragnet, separate and distinct from the Progress Schedule update, must demonstrate that the changes or anticipated delays affect Activities of the current accepted Progress Schedule. The impact schedule will be incorporated into the Progress Schedule only after it is accepted by the Commissioner and a time extension is approved. The Fragnet submitted as part of the Time Impact Analysis must illustrate the impact of these changes or delays on the date for Substantial Completion.

PART II – PRODUCTS (Not Used)

PART III – EXECUTION (Not Used)

END OF SECTION 01 32 16.30



**SECTION 01 32 33
PHOTOGRAPHIC DOCUMENTATION**

REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SECTION 01 32 33

PART 1 – GENERAL

1.1 RELATED DOCUMENTS:

- A. The following documents apply to all required work for the Project: (1) the Contract Drawings, (2) the Specifications, (3) the General Conditions, (4) the Addendum, and (5) the Contract [City of New York Standard Construction Contract].

1.2 SUMMARY:

- A. This Section includes the following:
 - 1. Photographic Media
 - 2. Construction Photographs
 - 3. Pre-construction Photographs
 - 4. Periodic Construction Progress Photographs
 - 5. Special Photographs
 - 6. DVD Recordings
 - 7. Final Completion Construction Photographs
- B. RELATED SECTIONS: include without limitation the following:
 - 1. Section 01 10 00 SUMMARY
 - 2. Section 01 33 00 SUBMITTAL PROCEDURES
 - 3. Section 01 35 91 HISTORIC TREATMENT PROCEDURES
 - 4. Section 01 78 39 CONTRACT RECORD DOCUMENTS
 - 5. Section 01 81 19 INDOOR AIR QUALITY REQUIREMENTS FOR LEED BUILDINGS
- C. PHOTOGRAPHER - The Contractor must employ and pay for the services of a professional photographer who will take photographs showing the progress of the Work.

1.3 DEFINITIONS:

- A. Refer to Article 2 of the Contract for definition of terms, words and expressions used in the General Conditions not otherwise defined herein.
- B. Design Consultant: "Design Consultant" must mean 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.

1.4 SUBMITTALS:

- A. Qualification Data: For photographer.
- B. Key Plan: With each Progress Photograph Submittal include a key plan of Project site and building with notation of vantage points marked for location and direction of each image. Indicate location, elevation or story of construction. Include same label information as corresponding set of photographs.



- C. Construction Progress Photograph Prints: Take Progress Photographs bi-weekly and submit four (4) color prints of each photographic view for each trade to the Resident Engineer. Such Progress Photographs must be included in each monthly progress report or as otherwise directed by the Resident Engineer.
- D. Digital Files: Submit digital files in the format required.

1.5 QUALITY ASSURANCE:

- A. Photographer Qualifications: An individual who has been regularly engaged as a professional photographer of construction projects for not less than three (3) years.

1.6 COORDINATION:

- A. The Contractor and its subcontractor(s) must cooperate with the photographer and provide auxiliary services requested, including access to Project site and use of temporary facilities, such as temporary lighting required to produce clear and well-lit photographs without obscuring shadows.

1.7 COPYRIGHT:

- A. The Contractor must include the provisions of this Subsection 1.7 in the agreement between the Contractor and the Photographer who will provide the construction photographs described in this Section. The Contractor must submit to the Resident Engineer a copy of its agreement with the Photographer.
- B. Any photographs, images and/or other materials produced pursuant to this Agreement, and any and all drafts and/or other preliminary materials in any format related to such items produced pursuant to this Agreement, will, upon their creation, become the exclusive property of the City.
- C. Any photographs, images and/or other materials provided pursuant to this Agreement ("Copyrightable Materials") will 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 will 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 Photographer 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 Photographer will retain no copyright or intellectual property interest in the Copyrightable Materials. The Copyrightable Materials must be used by the Photographer for no purpose other than in the performance of this Agreement without the prior written permission of the City. The Department may grant the Photographer a license to use the Copyrightable Materials on such terms as determined by the Department and set forth in the license.
- D. The Photographer 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 Photographer must fully cooperate in this effort and agrees to provide any and all documentation necessary to accomplish this.
- E. The Photographer 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 Photographer has obtained all necessary permissions and clearances, in writing, for the use of such non-original material under this Agreement, copies of which must be provided to the City.



PART II – PRODUCTS

2.1 PHOTOGRAPHIC MEDIA:

- A. Digital Images: Digital files must be captured as 7.2 megapixel files or greater, with a minimum pixel array of 2,400 pixels by 3,000 pixels. The camera used to capture the digital files must be a Digital SLR (Single Lens Reflex) camera or approved equal; “point and shoot” cameras or camera phones are not acceptable. Digital cameras must produce images using true optical resolution; “digital zoom” is not acceptable. Images must not be resized or interpolated. The file format for digital files must be Joint Photographic Experts Group format (“JPG”). The digital files must not be modified or processed in any way to alter the JPG file’s metadata, including the photograph’s original capture date.
- B. Digital Files: Digital files must be submitted on Digital Versatile Disk (“DVD”) or as specified by the Commissioner. DVDs must be inserted in standard weight Archival Quality clear poly sheet protectors and submitted in a hard cover three (3) ring binder. The information imprinted on each print must be provided on an Excel file included on the DVD. The DVD must be labeled with the Project ID and the Project description. Labeling using adhesive labels is not acceptable.
- C. Prints:
 - 1. Format: 8-by-10-inch (203-by-254-mm) smooth-surface matte color prints on single-weight commercial-grade stock paper, with 1-inch wide margins and punched for standard 3-ring binder.
 - 2. Identification: On the front of each photograph affix a label in the margin with Project name and date photograph was taken. On the back of each print, provide an applied label or rubber-stamped impression with the following information:
 - a. Project Contract I.D. Number.
 - b. Project Contract Name.
 - c. Name of Contractor. (and Subcontractor Trade Represented)
 - d. Subject of Image Taken.
 - e. Date and time photograph was taken if not date stamped by camera.
 - f. Description of vantage point, indicating location, direction and other pertinent information.
 - g. Unique sequential identifier.
 - h. Name and address of photographer.

PART III – EXECUTION

3.1 CONSTRUCTION PHOTOGRAPHS:

- A. General: Take photographs that provide the largest possible depth-of-field while still in focus, to clearly show the Work. Photographs with blurry or out-of-focus areas will not be accepted.
 - 1. Maintain key plan with each set of construction photographs that identifies each photographic location and direction of view.
- B. Digital Images: Submit digital images exactly as originally recorded in the digital camera, without alteration, manipulation, editing, or modifications using image-editing software.
 - 1. Date and Time: Include date and time in filename for each image.
 - 2. Field Office Images: Maintain one set of images on USB drive, or other electronic media requested by the Commissioner, in the field office at the Project site so that it is available at all times for reference. Ensure that the images are the same as for those submitted to Commissioner.

3.2 PRE-CONSTRUCTION & PRE-DEMOLITION PHOTOGRAPHS:

- A. Before commencement of Contract Work at the Project site, take color photographs of Project site and surrounding properties, including existing structures or items to remain during construction, from different vantage points, as directed by the Resident Engineer.
 - 1. Flag applicable excavation areas and construction limits before taking construction photographs.



2. Take photographs of minimum eight (8) views to show existing conditions adjacent to property before starting the Work.
 3. Take applicable photographs of minimum eight (8) views of existing buildings either on or adjoining property to accurately record physical conditions at start of construction.
 4. Take additional photographs as required or directed by the Resident Engineer to record settlement or cracking of adjacent structures, pavements, and improvements.
- B. Demolition Operations: Take photographs as directed by the Resident Engineer of minimum of eight (8) views each before commencement of demolition operations, at mid-point of operations and at completion of operations.
- C. Pre-Demolition Photographs: Take archival quality color photographs, to include all exterior building facades, of all structures at the Project site designated to be fully demolished or removed in compliance with New York City Building Code requirements. Submit four (4) complete sets of pre-demolition photographs, in the format specified herein, to the Resident Engineer for submission to the New York City Department of Buildings.

3.3 PERIODIC CONSTRUCTION PROGRESS PHOTOGRAPHS:

- A. Take photographs of minimum eight (8) views bi-weekly as directed by the Resident Engineer of construction progress for each contract trade. Select vantage points to show status of construction and progress since last photographs were taken.

3.4 SPECIAL PHOTOGRAPHS:

- A. The photographer must take special photographs of subject matter or events as specified in other sections of the Project Specifications from vantage points specified or as otherwise directed by the Resident Engineer.
- B. Historical Elements: As required in Section 01 35 91 HISTORIC TREATMENT PROCEDURES, for Contract Work at designated landmark structures or sites, the photographer, as specified and required by individual sections of the Contract documents or at the direction of the Commissioner, must take images of existing elements scheduled to be removed for replacement, repair or replication in quantities as directed, including post-construction photographs of completed Work as directed by the Commissioner.
1. Take Presentation Quality Photographs of designated landmark structures as directed by the Commissioner for submission to the New York City Landmarks Preservation Commission. Provide a minimum of four (4) color photographic prints of each view as directed.

3.5 VIDEO RECORDING:

- A. When Video Recording of Demonstration and Orientation sessions is required, the Contractor must provide the services of a Videographer as indicated in Section 01 79 00 DEMONSTRATION AND OWNER'S PRE-ACCEPTANCE ORIENTATION.

3.6 FINAL COMPLETION CONSTRUCTION PHOTOGRAPHS:

- A. For submission as Project Record Documents, take color photographs of minimum eight (8) unobstructed views of the completed Project and/or Project site, as directed by the Commissioner and after all scaffolding, hoists, shanties, field offices or other temporary work has been removed and final cleaning has been done after date of Substantial Completion. Submit four (4) sets of each view of Presentation Quality photographic prints, including negatives and/or digital images electronic file.

END OF SECTION 01 32 33



**SECTION 01 33 00
SUBMITTAL PROCEDURES**

PART 1 – GENERAL:

1.1 RELATED DOCUMENTS:

- A. The following documents apply to all required work for the Project: (1) the Contract Drawings, (2) the Specifications, (3) the General Conditions, (4) the Addendum, and (5) the Contract [City of New York Standard Construction Contract].

1.2 SUMMARY:

- A. This Section includes administrative and procedural requirements for submitting Shop Drawings, Coordination Drawings, Catalogue Cuts, Material Samples, and other Submittals required by the Contract Documents.
- B. 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.
- C. Responsibility of the Contractor: The approval of Shop Drawings will be general and will not relieve the Contractor of the following responsibilities:
 - 1. Accuracy of such Shop Drawings;
 - 2. Proper fitting and construction of the Work
 - 3. Furnishing of materials or Work required by the Contract that may not be indicated on the Shop Drawings.
- D. Approval of Shop Drawings must not be construed as approving departures from the Contract Drawings, Supplementary Drawings, or Specifications.
- E. This Section includes the following:
 - 1. Definitions
 - 2. Submission Procedures
 - 3. Coordination Drawings
 - 4. LEED Submittals
 - 5. Ultra Low Sulfur Diesel Fuel Reporting
 - 6. Construction Photographs and Recordings
 - 7. As-Built Documents

1.3 RELATED SECTIONS: Include without limitation the following:

- A. Section 01 10 00 SUMMARY
- B. Section 01 31 00 PROJECT MANAGEMENT AND COORDINATION
- C. Section 01 32 00 CONSTRUCTION PROGRESS DOCUMENTATION
- D. Section 01 32 33 PHOTOGRAPHIC DOCUMENTATION
- E. Section 01 40 00 QUALITY REQUIREMENTS
- F. Section 01 77 00 CLOSEOUT PROCEDURES
- G. Section 01 78 39 CONTRACT RECORD DOCUMENTS
- H. Section 01 81 13.03 SUSTAINABLE DESIGN REQUIREMENTS FOR LEED v3 BUILDINGS
- I. Section 01 81 13.04 SUSTAINABLE DESIGN REQUIREMENTS FOR LEED v4 BUILDINGS
- J. Section 01 81 13.10 ENVIRONMENTALLY PREFERABLE PURCHASING (EPP) COMPLIANCE



1.4 DEFINITIONS:

- A. Refer to Article 2 of the Contract for definition of terms, words and expressions used in the General Conditions not otherwise defined herein.
- B. Design Consultant: “Design Consultant” must mean 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.
- C. Action Submittals: Written and graphic information, or physical samples 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.
- D. Informational Submittals: Written and graphic information that does not require responsive action. Informational Submittals may be rejected for non-compliance with the Contract.
- E. Shop Drawings: 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.
- F. Coordination Drawings: As required in Section 01 31 00 PROJECT MANAGEMENT AND COORDINATION.
- G. 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

1.5 COORDINATION DRAWINGS:

- A. Coordination Drawings, General: When coordination is required to facilitate integration of products and materials fabricated or installed by more than one entity, or where limited space availability necessitates coordination, prepare Coordination Drawings according to requirements in individual Sections as a prerequisite to submittal of Shop Drawings.



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1. Content: Project-specific information, shown accurately to a scale large enough to indicate and resolve conflicts. Do not base Coordination Drawings on standard printed data. Include the following information, as applicable for the Project:
 - a. Use applicable background views as a basis for preparation of coordination layouts. Prepare sections, elevations, and details as needed to describe relationship of various systems and components.
 - b. Coordinate the addition of trade-specific information by multiple contractors in a sequence that best presents the information and resolution of conflicts between installed components, before submitting for review.
 - c. Indicate functional and spatial relationships of components of architectural, structural, civil, mechanical, plumbing, fire protection, and electrical systems.
 - d. Indicate space requirements for routine maintenance and for anticipated replacement of components during the life of the installation.
 - e. Show location and size of access doors required for access to concealed dampers, valves, and other controls.
 - f. Indicate required installation sequences.
 - g. Indicate dimensions shown on Drawings. Specifically note dimensions that appear to be in conflict with submitted equipment and minimum clearance requirements. Provide alternate sketches to Commissioner indicating proposed resolution of such conflicts.
- B. Coordination Drawing Organization: Organize Coordination Drawings as follows:
 1. Floor Plans and Reflected Ceiling Plans: Show architectural and structural elements, and mechanical, plumbing, fire-protection, fire-alarm, and electrical Work. Show locations of visible ceiling-mounted devices relative to acoustical ceiling grid. Supplement plan drawings with section drawings where required to adequately represent the Work.
 2. Plenum Space: Indicate subframing for support of ceiling raised access floor and wall systems, mechanical and electrical equipment, and related Work. Locate components within plenums to accommodate layout of light fixtures and other components indicated on Drawings. Indicate areas of conflict between light fixtures and other components.
 3. Mechanical Rooms: Provide Coordination Drawings for mechanical rooms showing plans and elevations of mechanical, plumbing, fire-protection, fire-alarm, and electrical equipment.
 4. Structural Penetrations: Indicate penetrations and openings required for all disciplines.
 5. Slab Edge and Embedded Items: Indicate slab edge locations and sizes and locations of embedded items for metal fabrications, sleeves, anchor bolts, bearing plates, angles, door floor closers, slab depressions for floor finishes, curbs and housekeeping pads, and similar items.
 6. Mechanical and Plumbing Work: Show the following:
 - a. Sizes and bottom elevations of ductwork, piping, and conduit runs, including insulation, bracing, flanges, and support systems.
 - b. Dimensions of major components, such as dampers, valves, diffusers, access doors, cleanouts and electrical distribution equipment.
 - c. Fire-rated enclosures around ductwork.
 - d. HVAC equipment
 7. Electrical Work: Show the following:
 - a. Runs of vertical and horizontal conduit 1-1/4 inches (32 mm) in diameter and larger.
 - b. Light fixture, exit light, emergency battery pack, smoke detector, and other fire-alarm locations.
 - c. Panel board, switch board, switchgear, transformer, busway, generator, and motor-control center locations.
 - d. Location of pull boxes and junction boxes, dimensioned from column center lines.



- e. Indicate runs and locations of Audio Visual and Information Technology, and security devices.
- 8. Fire-Protection System: Show the following:
 - a. Locations of standpipes, mains piping, branch lines, pipe drops, and sprinkler heads.
- C. The Contractor must issue the completed Coordination Drawing(s) to the Design Consultant for his/her review. The Design Consultant may call as many meetings as necessary with the Contractor, including attendance by applicable subcontractors, and may call on the services of the applicable sub consultant(s) where necessary, to resolve any conflicts that become apparent.
- D. Upon resolution of any conflicts, the Contractor must provide a final Coordination Drawing(s) which will become the Master Coordination Drawing(s). The Master Coordination Drawing(s) must be signed and dated by the Contractor to indicate acceptance of the arrangement of the Work.
- E. A reproducible copy of the Master Coordination Drawing(s) must be provided by the Contractor to each of the appropriate subcontractor(s), the Resident Engineer and the Design Consultant for information.
- F. Shop Drawings must not be submitted prior to acceptance of the final coordinated drawings and must be prepared in accordance with the Master Coordination Drawing(s). No work will be permitted without accepted Shop Drawings. It is therefore essential that this procedure be instituted as quickly as possible.
- G. Coordination Drawing Digital Data Files: Prepare coordination digital data files according to the following requirements:
 - 1. File Preparation Format: Same digital data software program, version, and operating system as original Design Drawings.
 - 2. File Submittal Format: Submit or post coordination drawing files using PDF format.
 - 3. BIM File Incorporation: Submit or post coordination drawing files using PDF format, unless otherwise directed by Commissioner.
 - 4. Commissioner will furnish Contractor one set of digital data files of Drawings for use in preparing coordination digital data files.
 - a. Contractor must execute Digital Data File Release and indemnification form provided by Commissioner.
 - b. Commissioner makes no representations as to the accuracy or completeness of digital data files as they relate to coordination drawings.

1.6 SUBMITTAL PROCEDURES:

- A. Refer to Section 01 35 03 GENERAL MECHANICAL REQUIREMENTS and Section 01 35 06 GENERAL ELECTRICAL REQUIREMENTS for additional Submittal requirements involving electrical and mechanical work or equipment of any nature called for in the Project.
- B. Coordination: Coordinate preparation and processing of Submittals with performance of construction activities.
 - 1. Coordinate each Submittal with fabrication, purchasing, testing, delivery, other Submittals, and related activities that require sequential activities, with the Submittal Schedule specified in Section 01 32 00 CONSTRUCTION PROGRESS DOCUMENTATION.
 - 2. Coordinate transmittal of different types of Submittals for related parts of the Work so processing will not be delayed because of need to review Submittals concurrently for coordination.
 - 3. The Commissioner reserves the right to withhold action on a Submittal requiring coordination with other Submittals until related Submittals are received.
- C. Identification: Place a permanent label or title block on each Submittal for identification.



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1. Indicate name of firm or entity that prepared each Submittal on label or title block.
 2. Provide a space approximately 6 by 8 inches on label or beside title block to record Contractor's review and approval markings and action taken by Design Consultant.
 3. Include the following minimum information on label for processing and recording action taken:
 - a. Project name, DDC Project Number, and Contract Number
 - b. 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
 - g. Name of manufacturer
 - h. Submittal number or other unique identifier, including revision identifier
 - i. Number and title of appropriate Specification Section
 - j. Drawing number and detail references, as appropriate
 - k. Location(s) where product is to be installed, as appropriate
 - l. Other necessary identification
- D. PDF Submittals:
1. Prepare submittals as PDF package, incorporating complete information into each PDF file. Name PDF file with submittal number. Bind transmittal form with each submittal file package. Transmittal form must be the first page in the PDF file constituting the submittal.
 2. Submittal files received from sources other than the Contractor will be rejected without review. Re-submission of the same drawings or product data must bear the original number of the prior submission and the original titles.
- E. Web-Based Project Software Submittals: Prepare submittals as PDF files, or other format indicated by Project software website.
- F. Transmittal Form: Provide locations on form for the following information:
1. Project name, DDC Project number and Contract Number
 2. Date
 3. Destination (To:)
 4. Source (From:)
 5. Names of Contractor, subcontractor, manufacturer, and supplier
 6. Category and type of Submittal
 7. Submittal purpose and description
 8. Specification Section number and title
 9. Drawing number and detail references, as appropriate
 10. Transmittal number, numbered consecutively
 11. Submittal and transmittal distribution record
 12. Remarks
 13. Signature of transmitter
- G. Shop Drawings:
1. Procedures for Preparing, Forwarding, Checking, and Returning all Shop Drawings must be, generally, as follows:
 - a. The Contractor must make available to its subcontractors the necessary Contract Documents and must instruct such subcontractor to determine dimensions and conditions in the field, particularly in reference to coordination between the trade subcontractors. The Contractor must direct its subcontractors to prepare Shop Drawings for submission to the Design



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Consultant in accordance with the requirements of these General Conditions. The Contractor must also direct its subcontractors to "Ring Up" corrections made on all re-submissions for approval, so as to be readily seen, and that the appropriate symbol per item 2 below (e.g., "GC") be used to identify the source of the correction or information that has been added.

The Contractor must:

1. Review and be responsible for information shown on its subcontractor's Shop and Installation Drawings and manufacturers' data, and conformity to Contract Documents.
 2. "Ring Up" corrections made on all submissions for approval, so as to be readily seen, and that the symbol "GC", "PL", "HVAC", or "EL" be used to indicate that the correction and/or information added was made by the Contractor and/or its subcontractor(s).
 3. Clearly designate which entity is to perform the Work when the term, "work by others" or other similar phrases are indicated on the Contract Drawings before submission to the Design Consultant.
 4. Stamp submissions "Recommended for Acceptance", date and forward to the Design Consultant.
2. The Contractor must promptly prepare and submit project specific layout detail and Shop Drawings of such parts of the Work as are indicated in the Specifications, or as required. These Shop Drawings must be made in accordance with the Contract Drawings, Specifications and Supplementary Drawings, if any. The Shop Drawings must be accurate and distinct and give all the dimensions required for the fabrication, erection, and installation of the Work.
 3. Size of Drawings: 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.
 4. Scope of Drawings: Shop Drawings must be numbered consecutively and must accurately and distinctly represent all aspects of the Work, including without limitation the following:
 - a. All working and erection dimensions
 - b. Arrangements and sectional views
 - c. Necessary details, including performance characteristics and complete information for making necessary connections with other Work
 - d. Kinds of materials including thickness and finishes
 - e. Identification of products
 - f. Fabrication and installation drawings
 - g. Roughing-in and setting diagrams
 - h. Wiring diagrams showing field-installed wiring, including power, signal, and control wiring
 - i. Shop work manufacturing instructions
 - j. Templates and patterns
 - k. Schedules
 - l. Design calculations
 - m. Compliance with specified standards
 - n. Notation of coordination requirements
 - o. Notation of dimensions established by field measurement
 - p. Relationship to adjoining construction clearly indicated
 - q. Seal and signature of professional engineer if specified
 - r. Wiring Diagrams: Differentiate between manufacturer-installed and field-installed wiring
 - s. All other information necessary for the Work and/or required by the Commissioner
 5. Titles and Reference: Shop Drawings must be dated and contain:
 - a. Name of the Project, DDC Project Number, and Contract Number
 - b. The descriptive names of equipment or materials covered by the Contract Drawings and the classified item number or numbers.



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- c. The locations or points and sequence at which materials, or equipment, are to be installed in the Work
 - d. Cross references to the section number, detail number, and paragraph number of the Contract Specifications
 - e. Cross references to the sheet number, detail number, etc., of the Contract Drawings
6. Field Measurements: In addition to the above requirements, the Shop Drawings must be signed by the Contractor and, if applicable, the subcontractor responsible for preparation of the Shop Drawings. Each Shop Drawing must be stamped with the following wording:

FIELD MEASUREMENTS: The Contractor certifies that it has verified and supplemented the Contract Drawings by taking all required field measurements, which said measurements correctly reflect all field conditions and that this Shop Drawing incorporates said measurements.
7. Contractor's Statement with Submittal: Any Submittal by the Contractor for acceptance, including without limitation, all dimensional drawings of equipment, blueprints, catalogues, models, samples and other data relative to the equipment, the materials, the Work or any part thereof, must be accompanied by a statement that the Submittal has been examined by the Contractor and that everything shown in the Submittal is in accordance with the requirements of the Contract Drawings and Specifications. If there is any discrepancy between what is shown in the Submittal and the requirements of the Contract Drawings and Specifications, the Contractor must, in its statement, list and clearly describe each discrepancy.
8. Acceptance will be given based upon the Contractor's representation that what is shown in the Submittal is in accordance with the requirements of the Contract Drawings and Specifications. If the Contractor's statement indicates any discrepancy between what is shown in the Submittal and the requirements of the Contract Drawings and Specifications, such change is subject to review and prior written acceptance by the Design Consultant. In addition, such change may require a change order in accordance with Article 25 of the Contract. In the event any such change is approved, any additional expense or increased cost in connection with the change is the sole responsibility of the Contractor.
9. Submission of Shop Drawings:
 - a. Initial Submission: The Contractor must submit seven (7) copies, or as requested by the Resident Engineer, of each Shop Drawing to the Design Consultant for his/her review and acceptance. If PDF drawings are requested by the Resident Engineer, they must be provided in an original "printed from digital" format, and not scanned. The Design Consultant will transmit Shop Drawings to appropriate sub-consultants for review and acceptance, including Commissioning Authority/Agent as applicable. A satisfactory Shop Drawing will be digitally stamped "No Exceptions Taken", be dated and transmitted by the Design Consultant as follows:
 - 1) Addressed to the Contractor, with a cc to the following:
 - a) Design Consultant's sub consultant(s) as appropriate
 - b) DDC
 - 2) Should the Shop Drawing(s) be "Rejected" or noted "Revise and Resubmit" by the Design Consultant, the Design Consultant will transmit the Shop Drawings to the Contractor with the necessary corrections and changes to be made as indicated thereon.



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- b. Revisions: The Contractor must make such corrections and changes and again transmit each shop drawing to the Design Consultant. The Contractor must revise and resubmit the Shop Drawing as required by the Design Consultant until the Shop Drawings are stamped "No Exceptions Taken". However, Shop Drawings which have been stamped "Make Corrections Noted" will be considered an "Acceptable" Shop Drawing and NEED NOT be resubmitted.
- c. Commencement of Work: No Work or fabrication called for by the Shop Drawings must be done until the acceptance of the said drawings by the Design Consultant is given. 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. [These accepted Shop Drawings must be distributed to the affected subcontractors when required with a copy of the transmittal to the Resident Engineer.]
- d. 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 must constitute acceptance of the subject matter thereof only and not of any structural apparatus shown or indicated.

H. Product Data:

- 1. General: Except as otherwise prescribed herein, the submission, review, and acceptance of Product Data and Catalogue cuts must conform to the procedures specified in subsection 1.6 E, Shop Drawings.
- 2. If information must be specially prepared for the Submittal because standard printed data are not suitable for use, submit as Shop Drawings, not as Product Data.
- 3. Mark each copy of the Submittal to show which products and options are applicable.
- 4. Include the following information, as applicable:
 - a. Manufacturer's written recommendations.
 - b. Manufacturer's product specifications.
 - c. Manufacturer's installation instructions.
 - d. Standard color charts.
 - e. Manufacturer's catalog cuts.
 - f. Wiring diagrams showing factory-installed wiring.
 - g. Printed performance curves.
 - h. Operational range diagrams.
 - i. Mill reports.
 - j. Standard product operation and maintenance manuals.
 - k. Compliance with specified referenced standards.
 - l. Testing by recognized testing agency.
 - m. Application of testing agency labels and seals.
 - n. Notation of coordination requirements.
- 5. Submit Product Data before or concurrent with Samples.
- 6. Submission of Product Data:
 - a. Initial Submission: The Contractor must submit seven (7) sets of Product Data to the Design Consultant for his/her review and acceptance. The Design Consultant will transmit Product Data to appropriate sub-consultants for review and acceptance, including Commissioning Authority/Agent as applicable. A satisfactory catalogue cut will be digitally stamped "No Exception Taken", be dated and transmitted as follows:



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- 1) Addressed to the Contractor, with a cc to the following:
 - a) Design Consultant's sub consultant(s) as appropriate
 - b) DDC
- 2) Should the Product Data be "Rejected" or noted "Revise and Resubmit" by the Design Consultant, the Design Consultant will return one (1) set of such Product Data to the Contractor with the necessary corrections and changes to be made indicated and one (1) set to DDC.
7. Revisions: The Contractor must make such corrections and changes and again submit seven (7) copies of each Product Data for the review of the Design Consultant. The Contractor must revise and resubmit the Product Data as required by the Design Consultant until the submission is stamped "No Exceptions Taken" by the Design Consultant. However, Product Data which has been stamped "Make Corrections Noted" must be considered an "Accepted" Product Data and NEED NOT be resubmitted.
- I. Samples of Materials:
 1. For samples of materials involving electrical Work of any nature, refer to Section 01 35 06 GENERAL ELECTRICAL REQUIREMENTS.
 2. Samples must be in triplicate or as directed by the Resident Engineer, and of sufficient size to show the quality, type, range of color, finish and texture of the material.
 3. Each of the samples must be labeled as follows:
 - a. Name of the Project, DDC Project Number and Contract Number
 - b. Name and quality of the material
 - c. Date
 - d. Name of Contractor, subcontractor, manufacturer and supplier
 - e. Related Specification or Contract Drawing reference to the samples submitted
 4. A letter of transmittal, in triplicate, from the Contractor requesting acceptance must accompany all such samples.
 5. Transportation charges to the Design Consultant's office must be prepaid on all samples forwarded.
 6. Samples for testing purposes must be as required in the Specifications.
 7. Samples on Display: When samples are specified to be equal to approved product, they must be carefully examined by the Contractor and by those whom the Contractor expects to employ for the furnishing of such materials.
 8. Timely Submissions Log/Schedule: Samples must be submitted in accordance with approved Shop Drawing log so as to permit proper consideration without delaying any operation under the Project. Materials should not be ordered until acceptance is received, in writing, from the Design Consultant. All materials must be furnished equal in every respect to the accepted samples.
 9. The acceptance of any samples will be given as promptly as possible, and will be only for the characteristic color, texture, strength, or other feature of the material named in such acceptance, and no other. When this acceptance is issued by the Design Consultant, it is done with the distinct understanding that the materials to be furnished will fully and completely comply with the Specifications, the determination of which may be made at some later date by a laboratory test or by other procedure. Use of materials will be permitted only so long as the quality remains equal to the approved samples and complies in every respect with the Specifications, and the colors and textures of the samples on file in the office of the Design Consultant, for the Project.



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10. Acceptability of test Data: The Commissioner will be the final judge as to acceptability of laboratory test data and performance in service of materials submitted.
 11. Valuable Samples: Valuable samples, such as hardware, plumbing and electrical fixtures, etc., not destroyed by inspection or test, will be returned to the Contractor and may be incorporated into the Work after all questions of acceptability have been settled, providing suitable permanent records are made as to the location of the samples, their properties, etc.
- J. Product Schedule: As required in individual Specification Sections, prepare a written summary indicating types of products required for the Work and their intended location. Include the following information in tabular form:
1. Type of product. Include unique identifier for each product indicated in the Contract Documents or assigned by Contractor if none is indicated.
 2. Manufacturer and product name, and model number if applicable.
 3. Number and name of room or space.
 4. Location within room or space.
- K. Supplementary Qualification Data: Prepare written information that demonstrates capabilities and experience of entity. Include lists of completed projects with project names and addresses, contact information of architects and owners, and other information specified.
- L. Design Data: Prepare and submit written and graphic information indicating compliance with indicated performance and design criteria in individual Specification Sections. Include list of assumptions and summary of loads. Include load diagrams if applicable. Provide name and version of software, if any, used for calculations. Number each page of submittal.
- M. Certificates:
1. Certificates and Certifications Submittals: Submit a statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by an officer or other individual authorized to sign documents on behalf of that entity. Provide a notarized signature where indicated.
 2. Installer Certificates: Submit written statements on manufacturer's letterhead certifying that Installer complies with requirements in the Contract Documents and, where required, is authorized by manufacturer for this specific Project.
 3. Manufacturer Certificates: Submit written statements on manufacturer's letterhead certifying that manufacturer complies with requirements in the Contract Documents. Include evidence of manufacturing experience where required.
 4. Material Certificates: Submit written statements on manufacturer's letterhead certifying that material complies with requirements in the Contract Documents.
 5. Product Certificates: Submit written statements on manufacturer's letterhead certifying that product complies with requirements in the Contract Documents.
 6. Welding Certificates: Prepare written certification that welding procedures and personnel comply with requirements in the Contract Documents. Submit record of Welding Procedure Specification and Procedure Qualification Record on AWS formats. Include names of firms and personnel certified.
- N. Test and Research Reports:
1. Compatibility Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of compatibility tests performed before installation of product. Include written recommendations for primers and substrate preparation needed for adhesion.



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2. Field Test Reports: Submit written reports indicating and interpreting results of field tests performed either during installation of product or after product is installed in its final location, for compliance with requirements in the Contract Documents.
 3. Material Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements in the Contract Documents.
 4. Preconstruction Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of tests performed before installation of product, for compliance with performance requirements in the Contract Documents.
 5. Product Test Reports: Submit written reports indicating that current product produced by manufacturer complies with requirements in the Contract Documents. Base reports on evaluation of tests performed by manufacturer and witnessed by a qualified testing agency, or on comprehensive tests performed by a qualified testing agency.
 6. Research Reports: Submit written evidence, from a model code organization acceptable to authorities having jurisdiction, that product complies with building code in effect for Project. Include the following information:
 - a. Name of evaluation organization.
 - b. Date of evaluation.
 - c. Time period when report is in effect.
 - d. Product and manufacturers' names.
 - e. Description of product.
 - f. Test procedures and results.
 - g. Limitations of use.
- O. Equivalent Quality: Any material, article and/or equipment which is designated in the Drawings and/or Specifications by a number in the catalogue of any manufacturer or by a manufacturer's grade or trade name is designated for the purpose of describing the material, article and/or equipment and fixing the standard of performance and/or function, as well as the quality and/or finish. Any material, article and/or equipment which is other than what is specified in the Drawings and/or Specifications will only be accepted if the Commissioner makes a written determination that such material, article and/or equipment is equivalent to that which is specified in the Drawings and/or Specifications.
- P. The submission of any material, article and/or equipment as the equal of any material, article and/or equipment set forth in the Drawings and/or Specifications as a standard must be accompanied by any and all information essential for determining whether such proposed material, article and/or equipment is equivalent to that which is specified. Such information must include, without limitation, illustrations, drawings, descriptions, catalogues, records of tests, samples, as well as information regarding the finish, durability and satisfactory use of such proposed material, article and/or equipment under similar operating conditions.
- Q. Engineering Services Submittals:
1. Performance and Design Criteria: Refer to Section 01 40 00 QUALITY REQUIREMENTS, Article 1.5.
 2. Engineering Services Certification: In addition to Shop Drawings, Product Data, and other required submittals, submit digitally signed PDF file and three paper copies of certificate, signed and sealed by the responsible professional engineer, for each product and system specifically required of the Contractor to be designed or certified by a professional engineer.
 - a. Indicate that products and systems comply with performance and design criteria in the Contract Documents. Include list of codes, loads, and other factors used in performing these services.
 3. BIM Incorporation: Incorporate engineering services drawing and data files into BIM established for



Project.

- a. Prepare engineering services documents in the required formats, including BIM incorporation.

REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 1.7

1.7 LEED SUBMITTALS:

- A. Comply with Submittal requirements specified in the following sections:
 1. Section 01 74 19 CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL;
 2. Section 01 81 13.03 SUSTAINABLE DESIGN REQUIREMENTS FOR LEED v3 BUILDINGS or
Section 01 81 13.04 SUSTAINABLE DESIGN REQUIREMENTS FOR LEED v4 BUILDINGS, as applicable;
 3. Section 01 81 13.13 VOLATILE ORGANIC COMPOUND (VOC) LIMITS FOR ADHESIVES, SEALANTS, PAINTS AND COATINGS FOR LEED v3 BUILDINGS;
 4. Section 01 81 19 INDOOR AIR QUALITY REQUIREMENTS FOR LEED BUILDINGS;
 5. Section 01 91 13 GENERAL COMMISSIONING REQUIREMENTS FOR MEP SYSTEMS; and/or,
 6. Section 01 91 15 BUILDING ENCLOSURE COMMISSIONING REQUIREMENTS.
- B. LEED Building Submittal information must be assembled into one package per each applicable Specification Section, separate from all other non-LEED Submittals. Each Submittal package must have a separate transmittal and identification as described in Subsection 1.5 herein.
- C. Number of Copies: Submit four (4) copies of LEED Submittals, in accordance with procedure described in Article 1.5 herein, unless otherwise indicated.
- D. Material Safety Data Sheets (MSDSs) for LEED Certification: Submit information necessary to show compliance with LEED certification requirements, which will be the limit of the Design Consultant's review for LEED compliance.
 1. Designated LEED Submittals that include non-LEED MSDS data will not be reviewed. The entire Submittal will be returned for re-submission.
- E. Product Cut Sheets and/or Shop Drawings for LEED Certification: Provide product cut sheets and/or shop drawings with the Contractor's or sub-contractor's stamp, confirming that the submitted products are the products installed in the Project. For detailed requirements refer to Subsection 1.6 of Section 01 81 13.03 SUSTAINABLE DESIGN REQUIREMENTS FOR LEED v3 PROJECTS, or Section 01 81 13.04 SUSTAINABLE DESIGN REQUIREMENTS FOR LEED v4 BUILDINGS.
 1. Provide the quantity, length, area, volume, weight, and/or cost of each product submitted as required to satisfy LEED documentation requirements. Refer to Subsection 1.6 of Section 01 81 13.03 SUSTAINABLE DESIGN REQUIREMENTS FOR LEED v3 PROJECTS.

1.8 ULTRA LOW SULFUR DIESEL FUEL AND BEST AVAILABLE TECHNOLOGY REPORTING:

- A. In accordance with Section 01 10 00 SUMMARY, Subsection 1.10 E, the Contractor must submit reports to the Commissioner regarding the use of Ultra Low Sulfur Diesel Fuel and Best Available Technology (BAT) in Non road Vehicles. Submission of such reports must be in accordance with the schedule, format, directions and procedures established by the Commissioner.



1.9 CONSTRUCTION PHOTOGRAPHS AND VIDEO RECORDINGS:

- A. Submit construction progress photographs and Video recordings in accordance with requirements of Section 01 32 33 PHOTOGRAPHIC DOCUMENTATION.

1.10 AS-BUILT DOCUMENTS:

- A. Submit all as-built documents in accordance with Section 01 78 39 CONTRACT RECORD DOCUMENTS.

PART II – PRODUCTS (Not Used)

PART III – EXECUTION (Not Used)

END OF SECTION 01 33 00



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SECTION 01 35 03

GENERAL MECHANICAL REQUIREMENTS

REFER TO THE ADDENDUM FOR APPLICABILITY OF THIS SECTION 01 35 03

PART 1 GENERAL

1.1 RELATED DOCUMENTS:

- A. The following documents apply to all required work for the Project: (1) the Contract Drawings, (2) the Specifications, (3) the General Conditions, (4) the Addendum, and (5) the Contract [City of New York Standard Construction Contract].

1.2 SUMMARY:

- A. The General Mechanical Requirements contained herein must be followed by the Contractor, as well as its subcontractor for HVAC work. This Section sets forth the General Requirements applicable to mechanical work for the Project. Such requirements are intended to be read in conjunction with the Specifications and Contract Drawings for the Project. In the event of any conflict between the requirements set forth in this Section and the requirements of the Specifications and/or the Contract Drawings, whichever requirement is the most stringent must take precedence.

1.3 RELATED SECTIONS: Include without limitation the following:

- A. Section 01 10 00 SUMMARY
- B. Section 01 33 00 SUBMITTAL PROCEDURES
- C. Section 01 35 06 GENERAL ELECTRICAL REQUIREMENTS
- D. Section 01 42 00 REFERENCES
- E. Section 01 77 00 CLOSEOUT PROCEDURES
- F. Section 01 78 39 CONTRACT RECORD DOCUMENTS

1.4 DEFINITIONS:

- A. **CONCEALED PIPING AND DUCTS:** piping and ducts hidden from sight in masonry or other construction, in floor fill, trenches, partitions, hung ceilings, furred spaces, pipe shafts and in service tunnels not used for passage. Where piping and ducts run in areas that have hung ceilings, such piping and ducts must be installed in the hung ceilings. For Work on existing piping, any insulation on such existing piping is to be tested for asbestos and abated if found to be positive by a certified asbestos contractor. Such testing and abatement must occur prior to the performance of any Work on these pipes.

1.5 SUBMITTALS:

- A. **INTENT OF MECHANICAL CONTRACT DRAWINGS** – Mechanical Contract Drawings are, in part, diagrammatic and show the general arrangement of the equipment, ducts, and piping included in the Contract and the approximate size and location of the equipment.
- B. The Contractor must follow these Contract Drawings in laying out the Work and verify the spaces in which it will be installed. The Contractor must submit, as directed, Mechanical Shop Drawings, roughing drawings,



manufacturer's Shop Drawings, field drawings, cuts, bulletins, etc., of all materials, equipment and methods of installation shown or specified in accordance with Section 01 33 00 SUBMITTAL PROCEDURES.

1. Submit sheet metal shop standards. Submit manufacturer's product data including gauges, materials, types of joints, scaling materials and installations for metal ductwork materials and products.
2. Submit scaled layout drawing (3/8"=1') of metal ductwork and fittings including, but not limited to, duct sizes, locations, elevations, slopes of horizontal runs, wall and floor penetrations and connections. Show modifications of indicated requirements made to conform to local shop practice and how those modifications ensure that free area, materials and rigidity are not reduced. Layouts should include all the room plans, mechanical equipment rooms and penthouses. Method of attachment of duct hangers to building construction all with the support details. Coordinate Shop Drawings with related trades prior to submission.
3. Indicate duct fittings, particulars such as gauges, sizes, welds and configuration prior to start of work for low-pressure systems.
4. Submit maintenance data and parts lists for metal ductwork materials and products. Include this data, product data and shop drawings in maintenance manual.

1.6 ACCESS:

- A. All Work must be installed by the Contractor to readily provide access for inspection, operation, maintenance and repair. Minor deviations from the arrangement indicated on the Contract Drawings may be made to accomplish this, but they must not be made without prior written approval by the Commissioner.

1.7 CHANGES IN PIPING, DUCTS, AND EQUIPMENT:

- A. Wherever field conditions are such that for proper execution of the Work, reasonable changes in location of piping, ducts, and equipment are necessary and required, the Contractor must make such changes as directed and approved, without extra cost to the City.

1.8 CLEANING OF PIPING, DUCTS, AND EQUIPMENT:

- A. Piping, ducts, and equipment must be thoroughly cleaned by the Contractor of all dirt, cuttings, and other foreign substances. Should any pipe, duct, or other part of the several systems be obstructed by any foreign matter, the Contractor will be required to pay for disconnecting, cleaning, and reconnecting wherever necessary for the purpose of locating and removing obstructions. The Contractor must pay for repairs to other work damaged in the course of removing obstructions. For work on existing piping, ducts, and equipment, the Contractor must pay special attention during this task so as not to disturb the insulation on such piping, ducts, or equipment.

1.9 STANDARDIZATION OF SIMILAR EQUIPMENT:

- A. Unless otherwise particularly specified, all equipment of the same kind, type, or classification, used for identical purposes, must be the product of one (1) manufacturer.

1.10 SUPPORTING STRUCTURES DESIGNED BY THE CONTRACTOR:

- A. Unless otherwise specified, supporting structures for equipment to be furnished by the Contractor must be designed by an Engineer licensed in New York State retained by the Contractor. Supporting structures must be built by the Contractor of sufficient strength to safely withstand all stresses to which they may be



subjected, within permissible deflections, and must meet the following standards:

1. Structural Steel - ASTM Standard Specifications, AISC and New York City Construction Codes.
2. Concrete for supports for equipment must conform to the Specifications for concrete herein, but in no case must be less than the requirements of the New York City Construction Codes for average concrete.
3. Steel reinforcement for concrete must be of intermediate grade and must meet the requirements of the Standard Specifications for Billet Steel-Concrete Reinforcement Bars, ASTM.
4. Drawings and calculations must be submitted for review and acceptance in accordance with Section 01 33 00 SUBMITTAL PROCEDURES.

1.11 ELIMINATION OF NOISE:

- A. All systems and/or equipment provided under the Contract must operate without objectionable noise or vibration.
- B. Should operation of any one or more of the several systems produce noise or vibration which is, in the opinion of the Commissioner, objectionable, the Contractor must, at its own expense, make changes in piping, equipment, etc., and do all work necessary to eliminate objectionable noise or vibration.
- C. Should noise or vibration that is found objectionable by the Commissioner be transmitted by any pipe or portions of the structure from systems and/or equipment installed under the Contract, the Contractor must, at its own expense, install such insulators and make such changes in or additions to the installations as may be necessary to prevent transmission of this noise or vibration.

1.12 PRELIMINARY FIELD TEST:

- A. As soon as conditions permit, the Contractor must furnish all necessary labor and materials for, and must make preliminary field tests of the equipment to ascertain compliance with the requirements of the Contract. If the preliminary field tests disclose equipment that does not comply with the Contract, the Contractor must, prior to the acceptance test, make all changes, adjustments, and replacements as required.

1.13 INSTRUCTIONS ON OPERATION:

- A. At the time the equipment is placed in permanent operation by the City, the Contractor must make all adjustments and tests required by the Commissioner to prove that such equipment is in proper and satisfactory operating condition. The Contractor must instruct the City's operating personnel on the proper maintenance and operation of the equipment for the period of time called for in the Specifications.

1.14 CERTIFICATES:

- A. On completion of the Work, the Contractor must obtain certificates of inspection, approval, and acceptance, and be in compliance with all laws from all agencies and/or entities having jurisdiction over the Work and must deliver these certificates to the Commissioner in accordance with Section 01 77 00 CLOSEOUT PROCEDURES. The Work will not be deemed substantially complete until the certificates have been delivered.

PART II – PRODUCTS (Not Used)

PART III – EXECUTION (Not Used)

END OF SECTION 01 35 03



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**SECTION 01 35 06
GENERAL ELECTRICAL REQUIREMENTS**

PART 1 – GENERAL

1.1 RELATED DOCUMENTS:

- A. The following documents apply to all required work for the Project: (1) the Contract Drawings, (2) the Specifications, (3) the General Conditions, (4) the Addendum, and (5) the Contract [City of New York Standard Construction Contract].

1.2 SUMMARY:

- A. This Section sets forth the General Requirements applicable to electrical work for the Project. Such requirements are intended to be read in conjunction with the Specifications and Contract Drawings for the Project. In the event of any conflict between the requirements set forth in this Section and the requirements of the Project Specifications and/or the Contract Drawings, whichever requirement is the most stringent, as determined by the Commissioner, must take precedence.
- B. This Section includes the following:
1. Related Sections
 2. Definitions
 3. Procedure for Electrical Approval
 4. Submittals
 5. Electrical Installation Procedures
 6. Electrical Conduit System Including Boxes (Pull, Junction and Outlet)
 7. Electrical Wiring Devices
 8. Electrical Conductors and Terminations
 9. Circuit Protective Devices
 10. Distribution Centers
 11. Motors
 12. Motor Control Equipment

1.3 RELATED SECTIONS: Include without limitation the following:

- | | | |
|----|------------------|---------------------------------|
| A. | Section 01 10 00 | SUMMARY |
| B. | Section 01 33 00 | SUBMITTAL PROCEDURES |
| C. | Section 01 35 03 | GENERAL MECHANICAL REQUIREMENTS |
| D. | Section 01 42 00 | REFERENCES |
| E. | Section 01 77 00 | CLOSEOUT PROCEDURES |
| F. | Section 01 78 39 | CONTRACT RECORD DOCUMENTS |

1.4 DEFINITIONS:

- A. **WIRING:** contains wire and raceway (rigid steel, heavy wall conduit unless specifically indicated otherwise).
- B. **POWER WIRING:** wiring from a panel board or other specified source to a starter (if required), then to a disconnect (if required), then to the final point of usage such as a motor, unit, or device.



- C. CONTROL and/or INTERLOCK WIRING: wiring that signals the device to operate or shut down in response to a signal from a remote control device such as a temperature, smoke, pressure, float, etc. device (starters and disconnect switches are not included in this definition) regardless of the voltage required for the controlling device.
- D. RIGID STEEL CONDUIT: rigid steel heavy wall conduit that is hot-dip galvanized inside and outside. The conduit must meet the requirements of the latest edition, as amended, of the "Standard for Rigid Steel Conduit" of the Underwriters' Laboratories, Inc. Unless otherwise specified in the Specifications or indicated on the Contract Drawings, rigid steel conduit must be used for all exposed work, all underground conduits in contact with earth, and fire alarms systems, as required by the New York City Construction Codes.
- E. ELECTRICAL METALLIC TUBING (EMT): industry standard thin wall conduit of galvanized steel. All elbows, bends, couplings and similar fittings which are installed as a part of the conduit system must be compatible for use with electric metallic tubing. Couplings and terminating fittings must be of the pressure type as approved by the Commissioner. Set screw fittings will not be acceptable. EMT must meet the requirements of the latest edition, as amended, of the "Standard for Electrical Metallic Tubing" of the Underwriters Laboratories Inc. EMT may only be used where specifically indicated. In no case will EMT be permitted in spaces other than hung ceilings and dry wall partitions.
- F. FLEXIBLE METALLIC CONDUIT (FMC): a conduit made through the coiling of a self-interlocking ribbed strip of aluminum or steel, forming a hollow tube through which wires can be pulled. For final connections to motors and motorized equipment, not more than a 4' - 0" length of flexible conduit may be used. For watertight installations, this conduit must be of a watertight type, attached with watertight glands or fittings for final connections from outlet box to recessed lighting fixtures and in locations only where specifically permitted by the Specifications or Contract Drawings.

1.5 PROCEDURE FOR ELECTRICAL APPROVAL:

This Section sets forth General Electrical information, as well as required approvals for all electrical work required for the Project, including ancillary electrical work which may be included in the work of other trade subcontractors.

- A. ELECTRIC SERVICE: The electric service supply is subject to commercial and operating variation of the utility company. Proper provision must be made to have all apparatus operate normally under these conditions.
- B. ACCEPTANCE: Acceptance and approval of the Work will be contingent upon the inspection and test of the installation by the City regulatory agency.
- C. TESTS: The Contractor must notify the Commissioner when the Contractor has completed the work and is ready to have it inspected and tested. Upon completion of the Work, tests must be made as required by the Commissioner of all electrical materials, electrical and associated mechanical equipment, and of appliances installed hereunder. The Contractor must furnish all labor and material for such tests. Should the tests show that any of the material, appliances or workmanship is not first class or not in compliance with the Contract, on written notice the Contractor must remove and promptly replace the materials to be in conformity with the Contract.
- D. CERTIFICATE OF THE BUREAU OF ELECTRICAL CONTROL, OF THE DEPARTMENT OF BUILDINGS (B.E.C.): Prior to requesting a substantial completion inspection, the Contractor must file a Certificate of Inspection issued by B.E.C. On completion of the Work, the Contractor must obtain certificates of inspection, approval, acceptance and compliance from all agencies and/or entities having jurisdiction over the work and must deliver these certificates to the Commissioner in accordance with Section 01 77 00 CLOSEOUT PROCEDURES.



E. RESPONSIBILITY FOR CARE AND PROTECTION OF EQUIPMENT:

1. The Contractor furnishing any equipment must be responsible for the equipment until it has been inspected, tested and accepted, in accordance with the requirements of the Contract.
2. After delivery, before and after installation, the Contractor must protect all equipment against theft, injury or damage from all causes. The Contractor must carefully store all equipment received for work which is not immediately installed. If any equipment has been subject to possible injury by water, it must be thoroughly dried out and put through a special dielectric test as directed by the Commissioner, at the expense of the Contractor or replaced by the Contractor without additional cost to the City.

F. UNIFORMITY OF EQUIPMENT: Any two (2) or more pieces of equipment, apparatus or materials of the same kind, type, or classification, which are intended to be used for identical types of service, must be made by the same manufacturer.

1.6 SUBMITTALS:

A. CONTRACTOR'S ELECTRICAL DRAWINGS AND SAMPLES FOR APPROVAL:

1. The Contractor must submit to the Commissioner for approval, in accordance with Section 01 33 00 SUBMITTAL PROCEDURES, complete dimensional drawings of all equipment, wiring diagrams, motor test data, details of control, installation layouts showing all details and locations and including all schedules, and descriptions and supplementary data to comprise complete working drawings and instructions for the performance of the Work. A description of the operation of the equipment and controls must be included. A letter, in triplicate, must accompany each submittal.
2. The Contractor must submit in accordance with Section 01 33 00 SUBMITTAL PROCEDURES, duplicate samples of such materials and appliances as may be requested by the Commissioner for approval. These samples must be properly tagged for identification and submitted for examination and test. After the samples are approved, one (1) sample will be returned to the Contractor and the other sample will be filed in the office of the Commissioner's representative for inspection use. After the Contract is completed, the second set of samples will be returned to the Contractor.

B. TIMELINESS: All material must be submitted in accordance with the Submittal Schedule in sufficient time for the progress of construction. Failure to promptly submit acceptable samples and dimensional drawings of equipment will not be accepted as grounds for an extension of time. The Commissioner may decline to consider submittals unless all related items are submitted at the same time.

C. CONTRACTOR'S STATEMENT WITH SUBMITTALS: Contractor must submit a statement in accordance with Section 01 33 00, SUBMITTAL PROCEDURES.

D. BULLETINS AND INSTRUCTIONS: The Contractor must furnish and deliver to the Commissioner in accordance with Section 01 78 39 CONTRACT RECORD DOCUMENTS and Section 01 77 00 CLOSEOUT PROCEDURES, after acceptance of the work, four (4) complete sets of instructions, technical bulletins and any other printed matter (diagrams, prints, or drawings) required to provide complete information for the proper operation, maintenance and repair of the equipment and the ordering of spare parts.



PART II – PRODUCTS (Not Used)

PART III – EXECUTION

3.1 ELECTRICAL INSTALLATION PROCEDURES:

This Sub-Section sets forth the General Installation Procedure that must apply to all electrical work and electrical equipment appearing in the Contract.

(Refer to Sub-Section 1.4 DEFINITIONS for terms used in this section)

- A. **INTENT OF CONTRACT DOCUMENTS:** The Drawings and Specifications are to be interpreted as a means of conveying the scope and intent of the work without giving every minor electrical detail. It is intended, nevertheless, that the Contractor must provide whatever labor and materials are found necessary, within the scope of the Contract, for the successful operation of the installation. Specific details of individual installations are to be finally decided upon when the Contractor submits Working or Shop Drawings for approval to DDC. Whenever there are two (2) or more methods to complete Project work within the Contract scope, the Commissioner reserves the right to choose that method which, in the Commissioner's opinion, will afford the most satisfactory performance, lasting qualities, and access for repairs, even if this selection is the costliest.
- B. **SCHEMATIC PLANS – APPROXIMATE LOCATIONS:** Conduits and wiring are shown on the plans for diagrammatic purposes only. Therefore, conduit layouts may not necessarily give the actual physical route of the conduits. The Contractor who installs a conduit system will also be required, as part of the work, to furnish and install all hangers and pull-boxes, including any special pull-boxes found necessary to overcome interferences, and to facilitate the pulling of electrical cables. Similarly, the locations of equipment, appliances, outlets and other items shown on Contract Drawings are only approximate and are to be definitively established when equipment Shop Drawings are submitted and approved by DDC during construction.
- C. **SLEEVES:** required for conduits passing through walls or floors; must be furnished and set by the Contractor installing the conduits. Sleeves in waterproofed floors must be provided with flashing extending twelve (12) inches in all directions from sleeve and secured to waterproofing. Flashing must be turned down into space between pipe and sleeve and caulked watertight. Flashing must be twenty (20) ounces cold rolled copper. Sleeves must be supplied with welded flanges similar to those supplied by the subcontractor for Plumbing Work and must extend one (1) inch above finished floor.
- D. **COORDINATION:** The Contractor must keep in close touch with the construction progress and promptly obtain the necessary information for the accurate placement of its work well before Project construction operations obstruct its work. The Contractor is to consult all other Contract Drawings, as well as approved equipment Shop Drawings on file in the Resident Engineer's Field Office. This will aid in avoiding interferences, omissions, and errors in the electrical installation.
- E. **RESTORATION:** If drilling or cutting is done on finished surfaces of equipment or the structure, any marring of the surface must be repaired or replaced by the Contractor. The Contractor must be held responsible for corrective restoration due to its cutting or drilling, and for any damage to the Project or its contents caused by the Contractor or the Contractor's workers. If any piercing of waterproofing occurs because of the installation of the work, the Contractor must restore the waterproofing, at its own expense, to the satisfaction of the Commissioner.
- F. **ELECTRICAL WORK AT SITE:** The Contractor furnishing equipment consisting of a number of related electrical devices or appliances, mounted in a single enclosure, or on a common base, must furnish this unit, ready for connection and operation, complete with internal wiring, connections, terminal boxes with



copper connectors and/or lugs and ample electrical leads. The cost of any wiring, re-wiring, or other work required to be done on this unit in the field, must be borne by the Contractor, without additional cost to the City.

- G. **COOPERATION AMONG SUBCONTRACTORS:** Whenever an electrically operated unit or system involves the combined work of several subcontractors for its installation and successful operation, the Contractor must require each subcontractor to exercise the utmost diligence in cooperating with others to produce a complete, harmonious installation.

REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 3.2

3.2 ELECTRICAL CONDUIT SYSTEM INCLUDING BOXES (PULL, JUNCTION AND OUTLET):

This Sub-Section sets forth the requirements applying to the installation of electrical conduits, boxes or fittings. Rigid steel conduit must be used throughout, unless otherwise directed by the Commissioner. Where the word 'conduit' is used without a modifier such as, rigid steel, EMT, etc., must be interpreted to mean rigid steel, heavy wall, threaded conduit.

(Refer to Sub-Section 1.4 DEFINITIONS for terms used in this section)

A. INSTALLATIONS AND APPLICATIONS:

1. Unless otherwise specified or indicated on the Contract Drawings, conduit runs must be installed concealed in finished spaces.
2. **CONDUIT SIZES:** The sizes of conduits must be as indicated on the Contract Drawings. Wherever conduit sizes are not indicated, the conduit must meet the requirements of the New York City Electrical Code to accommodate the conductors to be installed therein.
3. Conduits must be reamed smooth after cutting. No running threads will be permitted. Universal type couplings must be used where required. Conduit joints must be screwed up to butt. Empty conduits after installation must have all open ends temporarily plugged to prevent the entrance of water or other foreign matter.
4. Conduits installed in concrete or masonry must be securely held in place during pouring and construction operations. A group of conduits terminating together must be held in place by a template.
5. **UNDERGROUND STEEL CONDUITS:** Unless otherwise specified, all underground steel conduits in contact with earth must be encased by the Contractor who installs them, in a covering of not less than two (2) inches of an approved concrete mixture. Concrete mix must be one (1) part cement to four and one-half (4 ½) parts of fine and coarse aggregate.
6. **EXCAVATION RESTORATION PERMITS:** When installing underground conduits, duct banks or manholes, the Contractor must perform the work of cutting pavement, excavation shoring, keeping trenches or holes pumped dry, backfilling, restoration of surfaces to original condition and removal of excess earth and rubbish from premises. During the work, the Contractor must provide adequate crossovers, protective barriers, lamps, flags, etc., to safeguard traffic and the public. When the work is in a public highway or street, the Contractor must secure and pay for all necessary permits, inspection fees, and the cost of repaving.
7. **EXPOSED CONDUIT SUPPORTS:** Exposed conduits must be supported by Galvanized hangers with necessary inserts, beam clamps of approved design, or attached to walls or ceilings by expansion bolts. Exposed conduits must be supported or fastened at intervals not more than five (5) feet.



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8. Exposed conduits must be installed parallel or at right angles to ceilings, walls and partitions. Where direction changes of exposed conduit cannot be made with neat bends, as may be required around beams or columns, conduit-type fittings must be used.
9. Conduit must be installed with an expansion joint approved by the Commissioner in the following conditions:
 - a. Wherever the conduit crosses a building expansion joint, the Contractor will be held responsible for determining where the building expansion joints are located.
 - b. Every 200 feet, when in straight runs of 200 feet or longer.
10. Conduits may only enter and leave a floating slab in a vertical direction, and only in an approved manner. Horizontal entries into floating slabs are not permitted.
11. Conduits installed in pipe shafts must be properly supported to carry the total weight of the raceway system complete with cable. In addition, at least one (1) horizontal brace per 10 ft. section must be provided to assure stability of the raceway system.
12. BUSHINGS AND LOCKNUTS: Approved bushings and locknuts must be used wherever conduits enter outlet boxes, switch boxes, pull boxes, panel board cabinets, etc.
13. CONDUIT BENDS: must be made without kinking conduit or appreciably reducing the internal diameter. All bends in conduits of two (2) inch in diameter or larger must be made with a hydraulic or power pipe bender. The radius of the inner edge of any bend must not be less than six (6) times the internal diameter of the conduit where rubber covered conductors are to be installed, and not less than ten (10) times the internal diameter of the conduit where lead covered conductors are to be used. Long gradual sweeps will be required, rather than sharp bends, when changes of direction are necessary.
14. EMPTY CONDUITS
 - a. TESTS: All conduits and ducts required to be installed and left empty must be tested for clear bore and correct installation by the Contractor using a ball mandrel and a brush and snake before the installation will be accepted. The ball must be turned to approximately 85% of the internal diameter of the raceway to be tested. Two (2) short wire brushes must be included in the mandrel assembly. Snaking of conduits, ducts, etc., must be performed by the Contractor in the presence of the Resident Engineer. Any conduits or ducts which reject the mandrel must be cleared at once with the Contractor bearing all costs, such as chopping concrete, to replace the defective conduit and restore the surface to its original condition.
 - b. TAGS: Numbers or letters must be assigned to the various conduit runs, and as they test clear they must be identified by a fiber tag not less than 1-¼ inch width, attached by means of a nylon cord. All conduit terminations in panel, splice or pull boxes, as well as those out of the floor or ceiling, must be tagged.
 - c. TEST RECORDS: As the conduit runs clear, a record must be kept under the heading of "Empty Conduit Tested, Left Clear, Tagged and Capped" showing conduit designation, diameter, location, date tested and by whom. When complete, this record must be signed by the Resident Engineer and submitted in triplicate for approval. This record must be entered on the Contract Record Drawings under Section 01 78 39 CONTRACT RECORD DOCUMENTS.
 - d. CAPPING: After test, all empty conduit and duct openings, must be capped or plugged by the Contractor as directed.
 - e. DRAG LINES: A drag line must be left in all empty conduit.



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B. BOXES:

1. The Contractor must furnish and erect all pull boxes indicated on the plans or where required. Sides, top and bottom of pull boxes must be Galvanized coated and must be built of No. 12 USSG steel reinforced at corners by substantial angle irons and riveted or welded to plates. Bottom or side of pull boxes must be removable and held in place by corrosion resistant machine screws. Pull boxes in damp locations must have threaded hubs and gaskets and be NEMA 4X. All pull boxes must be suspended from ceiling or walls in the most substantial manner.
2. In centering outlets, the Contractor is cautioned to allow for overhead pipes, ducts and other obstructions, and for variations in arrangement and thickness of fireproofing, soundproofing and plastering. Precaution should be exercised regarding the location of window and door trims, paneling, etc. Mistakes resulting from failure to exercise precaution must be corrected by the Contractor at no additional cost to the City. Outlets in hung ceilings must be supported from the black iron or structure.
3. The exact location of all outlets in finished rooms must be as directed by the Commissioner. When the interior finish has been applied, the Contractor must make any necessary adjustment of its work to properly center the outlets. All outlet boxes for local switches near doors must be located at the strike side of doors as finally hung, whether so indicated on the drawings or not.
4. Exposed wall outlet boxes must be securely anchored, erected neatly and tight against the walls.
5. All wall outlets of each type must be set accurately at the same level on each floor, except where otherwise specified or directed by the Commissioner. Where special conditions occur, outlets must be located as directed.
6. MOUNTING HEIGHTS: The following heights are standard heights and are subject to correction due to coordination with Contract Drawings. All such changes must be approved by the Resident Engineer. Heights given are from finished floor to center line of outlet or device on wall or partition, unless otherwise indicated.

a.	General Convenience Outlets (mount vertical)	1'-6"
b.	Clock Outlets	8'-6" or 1'-6" below ceiling
c.	Wall Lighting Switches	4'-0"
d.	Motor Controllers	5'-0"
e.	Motor Push-button	4'-2"
f.	Telephone Outlets	As Directed by the Commissioner
g.	Fire Alarm Bells	8'-6" or 1'-6" below ceiling
h.	Fire Alarm Stations	4'-0"
i.	Intercom Outlet	1'-6"
j.	Cooking and Refrigerator Unit	As Directed
7. Outlet boxes must be of a design and construction approved by the Commissioner. The type of box, including its form and dimensions, must be appropriate for: its specific location; the kind of fixture to be used; and, the conduits (both quantity and type) that will connect to it. All ferrous outlet boxes must meet the requirements for zinc coating as specified under Electrical Conduit Systems.
8. Knockouts will only be opened to insert conduit. Any outlet boxes with more openings than are necessary for conduit insertion must be sealed by the Contractor without additional charge.
9. All outlet boxes and junction boxes for exposed work must be galvanized cast iron or cast aluminum with threaded openings. Outlet boxes for exposed inside work in damp locations must be galvanized cast iron or cast aluminum with threaded hubs and neoprene gaskets.
10. Junction boxes must not be less than 4 11/16" square and must be equipped with zinc coated plates. Where plates are exposed they must be finished to match the room decor.



11. **FIXTURE SUPPORTS:** Outlet boxes supporting lighting fixtures must be equipped with fixture studs held by approved galvanized stove bolts or integral with the box. Cast iron or malleable boxes must have four (4) tapped holes for mounting required cover or fixtures.
12. Outlet boxes exposed to the weather or indicated W.P. must be cast iron or cast aluminum with the covers made watertight with neoprene gaskets. The boxes must have external lugs for mounting. Drilling of the body of the fitting for mounting will not be permitted. The cover screws must be appropriate in size, non-corrodible and not less than four (4) in number for each box opening.

REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 3.3

3.3 ELECTRICAL WIRING DEVICES:

- A. **WALL SWITCHES:** must be of the best specification grade, quiet type, and must have a rating of 20 Amperes at 277 volts, as manufactured by Bryant, Hubbell or approved equal. The mechanism must be equipped with arc snuffers. They must be of the tumbler type, single pole. Switches of the 3-way type must have a similar rating.
- B. **RECEPTACLES:**
 1. **CONVENIENCE OUTLETS:** must be of the best specification grade, duplex, two-pole, 3-wire, 20 Amperes at 125 volts. It must have a grounding pole that must be grounded to the conduit system. Receptacles must be capable of both back and side wiring and must have only one (1) grounding screw. Receptacles must be Hubbell Catalog #5262 or approved equal.
 2. **HEAVY DUTY RECEPTACLE OUTLETS:** must have the Ampere rating and the number of poles specified on the Contract Drawings and must be Hubbell, Russell-Stoll, Bryant, AH & H or approved equal. Each outlet must have a grounding pole, which must be grounded to the conduit system.
 3. **FLOOR RECEPTACLES:** must be Russell & Stoll #3040 or approved equal, to fit into floor box previously specified.
 4. **NAMEPLATES:** are required for all receptacles other than 120V.
- C. **CLOCK HANGERS:** Clock outlets for surface type clocks must be equipped with a supporting hook and recessed faceplate to conceal the electrical cord.
- D. **WATERTIGHT DEVICES:** For installations exposed to weather or in damp locations, the devices must be in a gasketed, cast iron enclosure.
- E. **PLATES:**
 1. Every convenience outlet and switch outlet must be covered by means of a stainless steel No. 302 - 0.4" antimagnetic plate with an approved finish, unless provided otherwise in the detailed Specifications.
 2. Where two (2) or three (3) switches are grouped together, a single faceplate must be used. Where more than three (3) switches are located at one (1) point, the faceplates may be made up in multiple units.

REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 3.4

3.4 ELECTRICAL CONDUCTORS AND TERMINATIONS:

- A. **CONDUCTORS FOR LIGHT AND POWER:** All wire and cable must be of annealed copper of 98% conductivity. Aluminum wire or cable will not be permitted. The insulation must be flame retardant, moisture and heat resistant, thermoplastic, type THW or THWN rated for 600 volts at 75 degrees Celsius (C.) for both wet and dry locations. Wires No. 8 or larger must be stranded. Wires and cables must also



be subject to the requirements of the NYCEC. Cables for incoming service, or wire in conduits contiguous with the earth, in concrete, or other damp or wet locations, must be synthetic rubber insulated with neoprene jacket, heat and moisture resistant and must be equal to UL Type USE and rated for 600 volts at 75 degrees C. for both wet and dry locations.

- B. **FIXTURE WIRE:** Lighting fixtures must be wired with No. 14 gauge wire designated as AWM and rated at 105 degrees C.
- C. **OTHER TYPES:** Cables and wires for interior communication systems are described in applicable detailed Specifications.
- D. **MINIMUM SIZE:** Conductors smaller than No. 12 AWG must not be used for light or power.
- E. **COLOR CODE:** Wires must have a phase color code, and multiple conductor cables must be color coded.
- F. **CABLE DATA:** The Contractor must submit for approval the following information for each size and type of cable to be furnished:
 - 1. Manufacture of Cable - Location of Plant.
 - 2. Minimum insulation resistance at standard test temperature.
 - 3. Days required for delivery to site of work after order to proceed with manufacture.
- G. **ORIGINAL REELS:** Cable and wire must be delivered to the site of the work on original sealed factory reels.
- H. **WIRE INSTALLATION:**
 - 1. **INSTALL WIRES AFTER PLASTERING:** Feeder and branch circuits wiring must not be installed into conduit before the rough plastering work is completed. No conductors must be pulled into floor conduits before floor is poured.
 - 2. **CONDUIT SECURED IN PLACE:** No conductor must be pulled into any conduit run before all joints are made up tightly and the entire run rigidly secured in place.
 - 3. **WIRE ENDS:** All wires must be left with sufficiently long ends for proper connection and stowing.
 - 4. **PULLING COMPOUNDS:** to ease the pulling-in of wires into the conduit, only approved compounds as recommended by cable manufacturers must be used.
 - 5. **PRESSURE CONNECTORS:** pressure connectors for wires must be of the cast copper or forged copper pressure plate type. Connectors must be O.Z., Burndy, National Electric Products or approved equal.
 - 6. Splices and feeder taps in the gutters of panel boxes must be made by means of pressure plate-type connectors encased in composition covers as manufactured by O.Z., Burndy, National Electric Products or approved equal.
 - 7. Splices in branch wiring for sound systems and fire systems, must be first made mechanically secure, then soldered and taped.
 - 8. In lieu of soldered splices (except for sound and fire systems, which must have soldered splices) the following alternates are acceptable for operating temperatures up to 105 degrees C., for fluorescent fixtures and for the splicing of branch circuit wiring up to No. 8 AWG wire:
 - a. Mechanical splices made with mechanical connectors as manufactured by the Minnesota Manufacturing Company "Scotchlock" or approved equal. Mechanical connectors requiring a special tool (pressure connectors, insulators and locking rings) by Buchanan or approved equal. The tool used for connector application must be as approved by the connector manufacturer.



- b. For branch circuit wire and cable No. 6 AWG and larger, the seamless tubular connector will only be accepted. Application of this connector must be with a tool recommended by the connector manufacturer.
- 9. TAGS: All feeders and risers must be tagged at both ends, and in all pull and junction boxes and gutter spaces through which they pass. Such tags must be of fiber and have the feeder designation and size stamped thereon.
- 10. BRANCH CIRCUIT WIRING:
 - a. The Contractor installing branch circuit wiring must test the work for correct connections and leave all loop splices in the fixture outlet boxes properly spliced and taped. The Contractor must provide wire ends long enough for convenient connection to device.
 - b. NEUTRALS: No common neutrals must be used except for lighting branch circuits. Each neutral wire must be terminated separately on a neutral busbar in the panelboard. No common neutrals will be permitted for convenience receptacle branch circuits.
- I. TERMINATIONS
 - 1. LUGS: All lugs for all devices and all cable terminations must be copper. AL/CU rated lugs will not be permitted. The only exception to this requirement is when the particular device is not manufactured with copper lugs by any manufacturer. Lugs for No. 6 AWG cable and larger must be cast copper or forged copper pressure plate type. Lugs for 1/0 and larger must be fastened with two (2) bolts.
 - 2. All lugs must be of the proper size to accept the cable connected to them. Any subcontractor furnishing a device containing lugs is to coordinate with the Contractor to ensure that the device terminations are adequate for the wire or cable (whose size may be larger than expected due to voltage drop considerations) connected to the device.

REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 3.5

3.5 CIRCUIT PROTECTIVE DEVICES:

This Section sets forth the circuit protective devices such as circuit breakers and safety switches, used in connection with Motor Control Equipment, Distribution Centers, Panel boards and Service Entrance.

A. CIRCUIT BREAKERS:

- 1. CIRCUIT BREAKERS: must be operable in any position and must be of the quick-make, quick-break type on manual operation. The handle must be trip free, preventing contacts from being held in closed position against abnormal overloads or short circuits. Positive visual indication of automatic tripped position of breaker must be provided, in addition to the "On" and "Off" indication. All circuit breakers must be of the bolted type.
- 2. TRIP RATING: Circuit breakers must be provided with the required number of trip elements, calibrated at 40 degrees C., ambient temperature, in accordance with wire sizes or motor currents as shown on Contract Drawings or indicated in the Specifications.
- 3. POLE BARRIER: Multipole pole breakers must be designed to break all poles simultaneously. They must be provided with barriers between poles and arc suppressing devices.
- 4. ELEMENTS: Multipole circuit breakers must have frames of not less than a 100 Ampere rating. Multipole circuit breakers for 480 volts AC operation must have an NEMA interrupting rating of 18,000 Amperes, unless a higher rating is specified in the Specifications or indicated on the Contract Drawings.
- 5. For circuit breakers with frame size up to and including 225 Amperes, the breakers may be



provided with non-interchangeable trip elements. For frame ratings above 225 Amperes, the breakers must be provided with interchangeable trip elements, which can be replaced readily.

6. Single pole circuit breakers for branch circuits must have a frame size of no less than 100 Amperes, and must be rated at 125 volt A.C. with a NEMA interrupting rating of 10,000 Amperes, unless a higher rating is specified in the Specifications or indicated on the Contract Drawings.
7. INVERSE TIME ACTION: The circuit breakers must be dual element type, one (1) element with time limit characteristics, so that tripping will be prevented on momentary overloads, but will occur before dangerous values are reached and the other with instantaneous trip action. Inverse time delay action must be effective between a minimum tripping point of 125% of rating of breaker and an instantaneous tripping point between 600% and 700% of rated current.
8. CONSTANCY OF CALIBRATION: The tripping elements must insure constant calibration and be capable of withstanding excessive short circuit conditions without injury.
9. CONTACTS: must be non-welding under operating conditions and of the silver to silver type.
10. TEMPERATURE RISE: Current carrying parts, except thermal elements, must not rise in temperature in excess of 30 degrees C. while carrying current at the part's rated current and frequency.
11. NUMBERING: Each circuit breaker must be distinctly numbered when installed in a group with other breakers. The calibration of trip element must be indicated on each breaker.

B. SAFETY SWITCHES:

NEMA TYPE HD: When safety switches are permitted to be used for service entrance, motor disconnecting means or to control other types of electrical equipment, they must be of the type HD of a rating not less than 30 Amperes. Enclosures must be provided with means for locking. For ratings above 60 Amperes terminals must have double studs.

REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 3.6

3.6 DISTRIBUTION CENTERS:

This Section sets forth the construction and installation procedure for Switchboards, Panel boards and Cabinets.

- A. PANEL BOARDS, GENERAL TYPE: The panel boards must be of the automatic circuit breaker type with individual breakers for each circuit, removable without disturbing the other units. Circuit breakers must be in accordance with the requirements outlined under Section 3.5, "Circuit Protective Devices."
- B. NUMBER AND RATING OF CIRCUIT BREAKERS: The Contract Drawings show a layout of each panel, giving the number, frame, size and trip setting of circuit breakers and number of branch circuits and spare breakers. Each branch circuit must be distinctly numbered.
- C. BUS BAR CONSTRUCTION AND SUPPORT: Panel Boards must be of the dead front type and must have bus bars and branch circuits designed to suit the system and voltage. Current carrying parts, exclusive of circuit breakers, must be copper and based on a maximum density of 1,000 Amperes per square inch. Bus bars for the main switchboard must be designed for the frame rating of the Service Breaker. Bus bars must run up the center of the panel, unless otherwise indicated, and must have connected thereto the various branch circuits. Unless otherwise specified, bus bars for each panel board must be equipped with main lugs only and capacity as required on Contract Drawings. Where main protection is required, automatic circuit breakers must be used. A neutral bus of at least the same capacity as a live bus bar must be provided for the connection of all neutral conductors. Each terminal must be identified. All current carrying parts, exclusive of circuit breakers, must be of copper with a minimum number of joints. The bus bar structure must be a self-supporting unit, firmly fastened to a ½



inch plastic board, extending the full length and width of assembly which must serve to insulate the bus structure from the back of panel box. Other methods affording equally effective bus structure support and insulation will be given consideration. An insulating barrier must separate neutral bus from other parts of panel.

- D. **CIRCUIT BREAKER ASSEMBLY:** The entire circuit breaker and bus bar assembly must be mounted on an adjustable metal base or pan and secured to the back of the panel box. The panel must have edges flanged for rigidity.
- E. **PANEL MOUNTING:** The panel must be centered in the panel box, line up with the door openings, be set level and plumb, and no live parts may be exposed with the door open.
- F. **PANEL CABINET:**
 - 1. **PANEL CABINET INSTALLATION:** When installed, surface mounted in panel closets must be mounted on Kindorf channel.
 - 2. Where cabinets cannot be set entirely flush due to masonry walls or partitions or where cabinet is extra deep, the protruding sides of cabinet must be trimmed with a metal or hardwood return molding of approved design and fastened to cabinet so as to conceal the intersection between the wall and cabinet.
- G. **NAMEPLATES:** Where required, nameplates must be made of engraved Lamicoid sheet, or approved equal. Letters and numbers must be engraved white on a black background (except for Firehouse projects which must have white letters on a red background). The Contractor must submit an engraved sample for approval as to design and style of lettering before proceeding with the manufacture of the nameplate. Nameplates must be of suitable size and must also be provided at the top of the switchboard or section thereof and on the trim at the top of all lighting and power panels. Similar nameplates must also be provided for each distribution circuit breaker giving the breaker number, the number of the feeder, and the name of the equipment fed.
- H. **SHOP DRAWINGS:** showing all details of boxes, panels, etc., must be submitted for approval.
- I. **DIRECTORIES:** A directory must be fastened with brass screws and consist of a noncorrosive metal frame with dimensions not less than five (5) inches x eight (8) inches and a transparent window of Plasticite, Plexiglass, Lucite, Polycarbonate or approved equal that is not less than 1/16 inch thick over cardboard or heavy paper. The directory must be typewritten and show the number and name of each circuit, and lighting or equipment supplied. The size of riser feeder must be as indicated on the directory. The dimensions of the directory must be submitted for approval for each size of panel.
- J. **CONSTRUCTION**
 - 1. **FINISH:** Panel boxes, doors and trim for installation in dry locations, must be zinc coated after fabrication by the hot-dip galvanizing or electroplate process on inside and outside surfaces. In damp locations, panel boards must be enclosed and gasketed NEMA 3R type. Panel boards located outdoors or exposed to the weather must be NEMA 3X type.
 - 2. **PAINTING:** Panel boxes, doors and trim must receive a coat of approved priming paint and a second coat of approved paint in the field after installation. Paint must be applied to the inside and outside of boxes and on both sides of trim. Panel trims and doors must receive a third or finishing coat on the outside after installation. Approval as to texture and color must be obtained before the final coat is applied.

REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 3.7

3.7 MOTORS:

This Section sets forth the general design, construction and performance requirements, which must apply to all



motors furnished in the Contract.

- A. **MOTOR DESIGN:** All motors must be designed to comply with the New York State Energy Conservation Construction Code and the New York City Energy Conservation Code. In the event of any conflict or inconsistency between such codes, the New York City Energy Conservation Code must prevail. Motors must have standard NEMA frames and must have nameplate ratings adequate to meet the specified conditions of operation. Motor performance under variable conditions of voltage and frequency must be within the limits set in NEMA standards, unless modified in the Specifications. Motors must be expressly designed for the hazard duty load, voltage and frequency as specified in the Contract. All motor windings must be copper. All motors intended to operate on a 208 volt system must be designed and rated for 200 volts.
- B. **STANDARDS OF COMPARISON:** In the absence of specific motor specifications, in general, the best standard products of the leading motor manufacturers must be considered as a standard for comparison. The requirements of the NEMA standards for motors and generators must be deemed to contain the minimum requirements of performance and design.
- C. **OBJECTIONABLE NOISES:** Objectionable noises will not be tolerated and exceptionally quiet motors may be required for certain specified locations. Noise control tests as per the New York City Construction Codes may be performed as directed by the Commissioner. Such motors must bear a nameplate lettered "Quiet Motor." Springs and slip rings must be of approved non-ferrous material.
- D. **BEARINGS:**
1. Bearings, unless specified otherwise, must be of the ball or roller type. Motors one (1) horsepower and larger that are equipped with ball roller bearings must also have lubrication of the pressure-relief greasing type. The Contractor furnishing four (4) or more such motors must also furnish, as part of the Contract, a pressure grease gun of rugged design, of approximately ten (10) ounce capacity, complete with necessary adapters. The Contractor must also provide ten (10) pounds of approved gun grease.
 2. For any particular unit where sleeve bearings are deemed desirable, permission for their use may be granted by the Commissioner. Motors one (1) horsepower and larger that are equipped with sleeve type bearings must, in addition to having protected fittings easily accessed for oiling, be provided with visible means for determining normal oil level. Lubrication must be positive, automatic and continuous.
- E. **MOTOR TERMINALS AND BOXES:** Each motor must be furnished with flexible leads of sufficient length to extend for a distance of not less than three (3) inches beyond the face of the conduit terminal box. This box must be furnished of ample size to make and house motor connections. These requirements must be met irrespective of any other standards or practices. Size of cable terminals and conduit terminal box holes must be subject to approval. For motors five (5) horsepower or larger, each terminal must come with two (2) cast or forged copper pressure type connectors with bolts, nuts and washers. For motors of smaller ratings, connectors of other acceptable types may be furnished. For installations exposed to the weather or moist locations, terminal boxes must be of cast iron with threaded hubs and gasketed covers. Cover screws must be of non-corrosive material.
- F. **MOTOR TEMPERATURE RISES:** The motor nameplate temperature rises for the various types of motor enclosures must be as listed below:
- | | |
|---|---------------|
| 1. Open Frame | 40 degrees C. |
| 2. Totally enclosed and enclosed fan cooled | 55 degrees C. |
| 3. Explosion proof and submersible | 55 degrees C. |
| 4. Partially enclosed and drip proof | 40 degrees C. |

The temperature of the various parts of a motor must meet the requirements of NEMA standards for the size and type of the motors. Tests for heating must be made by loading the motor to its rated horsepower and keeping it so loaded for the rated time interval or until the temperature becomes constant.



- G. SPECIAL CODE INSTALLATIONS: Electrical installations covered by special publications of NBFU and by special City rulings and regulations must comply in design and safety features with such applicable codes, regulations and rulings, and must be furnished and installed complete with all accessories and safety devices as therein specified.
- H. MOTORS ON LIGHTING PANELS: The largest A.C. motor permitted on branch circuits of lighting panels must not exceed 1/4 horsepower.
- I. MOTORS RATED: ½ horsepower and larger must be polyphase.

REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 3.8

3.8 MOTOR CONTROL EQUIPMENT:

This Section sets forth the requirements for motor controllers and associated devices. Such requirements are applicable to all motor control equipment furnished or installed.

- A. MANUFACTURER: All control equipment furnished under the Contract must be the product of a single manufacturer. Exceptions to this rule may be granted in the case of controllers for fractional horsepower motors driving special equipment, the various units of which have been engineered to obtain specific performance.
- B. CONTROL ITEMS REQUIRED: The Contractor furnishing motors must also furnish therewith complete disconnecting, starting and control equipment as required by the detailed Specifications, the various code authorities and for the successful operation of the driven equipment. These items include circuit breakers, magnetic starters with overload protection and low voltage release or protection, push button stations, pilot lights and alarms, float, pressure, temperature and limit switches, load transfer switches, devices for manual operation and speed controllers, etc. The Contractor must furnish as many of these items as required for the successful operation of the driven unit.
 - 1. Where a motor is to be located out of sight of the controller, the Contractor must furnish an approved disconnecting means to be mounted near motor.
- C. TYPES OF STARTERS:
 - 1. SQUIRREL CAGE: A.C. motors of the squirrel cage type, rated from one (1) to thirty (30) horsepower, must have magnetic across the line starters; motors rated above thirty (30) horsepower must be furnished with reduced voltage (autotransformer type) starter or part winding start with time delay to reduce inrush current. Size of starters must be based on 200V operation.
 - 2. SLIP RING: A.C. motors of the slip-ring type must be furnished with primary across the line starters interlocked with secondary starting and regulating equipment. The interlocking feature must prevent starting of the motor when the secondary controller is off the initial starting point.
 - 3. MAGNETIC: For fractional horsepower motors, magnetic type starters are not required unless the particular method of controlling the driven equipment makes them necessary. Where individual single phase fractional horsepower motors or the sum of fractional horsepower motors controlled by an automatic device are ½ horsepower or more, magnetic starters and circuit breakers must be used. Single phase A.C. motors smaller than ½ horsepower or three-phase A.C. motors smaller than one (1) horsepower where manual control is specified may be furnished with starters of toggle switch or push button type with inbuilt thermal protection. No additional disconnecting means is required to be furnished with this type of starter. This type of starter may also be used in series with automatic control devices such as thermostats, float and pressure switches, provided the individual motor or the sum of fractional horsepower motors is less than ½ horsepower. Means for manual operation must be provided.



- D. **DISCONNECTING BREAKER:** All motor starters, unless otherwise specified, must be provided with a disconnecting means in the form of a circuit breaker of the type specified under Article 3.5 CIRCUIT PROTECTIVE DEVICES. This disconnecting means must be contained in the same housing with the starter and must be operable from outside. Means must be provided for locking the handle of the circuit breaker in the "OFF" position if it is desired to take the equipment out of service and prevent unauthorized starting.
- E. **CONTROL CABINET – DRY LOCATIONS:** All starters must be furnished with general purpose, NEMA Type 1, sheet metal enclosures with hinged covers and baked enamel finish.
- F. **CONTROL CABINET – WATERTIGHT:** In wet locations, cast iron watertight enclosures with threaded hubs, galvanized and gasketed hinged covers must be provided.
- G. **PANELS:** Motor control devices and appliances must be mounted on approved insulating slabs with all wiring and connections made on the back of the slabs.
- H. **WIRING AND TERMINALS:** Wiring connections for currents of one hundred (100) Amperes or less may be made with copper wire or cable with special flameproof insulating coverings. Such wires must be installed in a neat workmanlike manner, flat against the slab, and held in place by clips. Connections must be made with pressure connectors for No. 8 AWG and larger wires, and with grommets for small stranded wires. Except for incoming and outgoing main leads, all connections must terminate on approved connector blocks, which may be installed on the face of the slab. For small, across the line starters, the above requirements may be modified if satisfactory connections are provided.
- I. **COPPER BUS:** For currents exceeding one hundred (100) Amperes, copper bus must be used in place of wires. The bus must be constructed of copper rods, tubing or flat strap, bent and shaped properly and securely attached to the slab in a neat and workmanlike manner. The cross section of copper must provide sufficient areas to keep current density at not more than one thousand (1,000) Amperes per square inch.
- J. **COOPERATION:** The Contractor's subcontractor(s) who furnish electrically operated equipment must give to the Contractor and the Contractor's electrical subcontractor full information relative to sizes and locations of apparatus furnished by them which require electrical connections.

END OF SECTION 01 35 06



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**SECTION 01 35 26
SAFETY REQUIREMENTS PROCEDURES**

PART I – GENERAL

1.1 RELATED DOCUMENTS:

- A. The following documents apply to all required work for the Project: (1) the Contract Drawings, (2) the Specifications, (3) the General Conditions, (4) the Addendum, and (5) the Contract [City of New York Standard Construction Contract].
- B. The Contractor shall comply with the requirements of “*The City of New York Department of Design and Construction Safety Requirements*”. This document is included in the Information for Bidders.

1.2 SUMMARY:

- A. This Section includes administrative and general procedural requirements for Safety and Health Requirements, including:
 - 1. Definitions
 - 2. Required Safety Meeting
 - 3. Compliance with Regulations
 - 4. Submittals
 - 5. Personnel Protective Equipment
 - 6. Hazardous and / or Contaminated Materials
 - 7. Emergency Suspension of Work
 - 8. Protection of Personnel
 - 9. Environmental Protection

1.3 DEFINITIONS:

- A. Refer to Article 2 of the Contract for definition of terms, words and expressions used in the General Conditions not otherwise defined herein.
- B. Design Consultant: “Design Consultant” must mean 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.

1.4 REQUIRED SAFETY MEETINGS:

- A. Prior to commencing construction, the Resident Engineer will schedule and hold a preconstruction kick-off meeting either at DDC’s main office or at the Project site with representatives of the Contractor, including the principal on-site project representative, one or more safety representatives, the Commissioner’s designated representatives and other concerned parties for the purpose of reviewing the Contract safety requirements. Additionally, implementing Work safety provisions must be discussed.
- B. The Contractor is responsible for conducting weekly documented jobsite safety meetings, given to all jobsite personnel including all subcontractors on the Project, with the purpose of discussing safety topics and job-specific requirements at the DDC worksite.



1.5 COMPLIANCE WITH REGULATIONS:

- A. The Work, including contact with or handling of hazardous materials, disturbance or dismantling of structures containing hazardous materials, and disposal of hazardous materials, shall comply with the applicable requirement for 29 CFR Parts 1910 and 1926, and 40 CFR, Parts 61, 261, 761 and 763.
- B. Work involving disturbance or dismantling of asbestos or asbestos-containing materials, demolition of structures containing asbestos and removal of asbestos, shall comply with 40 CFR Part 61, Subparts A and M, and 40 CFR Part 763, as applicable.
- C. Additionally, Work shall comply with all applicable federal, state, and local safety and health regulations.
- D. In case of a conflict between applicable regulations, the more stringent requirements shall apply.
- E. All workers working on the DDC Project site are required by NYC Local Law 41 to complete the OSHA 10-hour training course.

1.6 SUBMITTALS:

- A. The Contractor shall submit to the Resident Engineer, copies of the Safety Program, Site Safety Plan and other required documentation in accordance with the *“New York City Department of Design and Construction Safety Requirements”*.
- B. Permits: If hazardous materials are disposed of off-site, the Contractor must submit to the Resident Engineer copies of shipping manifests, permits from applicable federal, state, or local authorities and disposal facilities, and certificates that the material has been disposed of in accordance with regulations.
- C. Accident Reporting: Submit a copy of each accident report to the Resident Engineer in accordance with the *“New York City Department of Design and Construction Safety Requirements”*.
- D. All asbestos and lead project regulatory notifications are to be submitted to DDC’s Office of Environmental and HazMat Services (OEHS) through the Resident Engineer.
- E. Request for Subcontractor Approval: Any subcontractor performing environmental work must submit required documentation for approval to perform such work as required by DDC’s OEHS.

PART II – PRODUCTS

2.1 PERSONNEL PROTECTIVE EQUIPMENT:

- A. Special facilities, devices, equipment, and similar items used by the Contractor in execution of the Work shall comply with 29 CFR Part 1910, subpart I, Part 1926, subpart E, and other applicable regulations.

2.2 HAZARDOUS AND / OR CONTAMINATED MATERIALS:

- A. The Contractor shall bring to the attention of the Commissioner, any material encountered during execution of the Work that the Contractor suspects to be hazardous and / or contaminated.
- B. The Commissioner shall determine whether the Contractor shall perform tests to determine if the material is hazardous and / or contaminated. A change to the Contract price may be provided, subject to the applicable provisions of the Contract.
- C. If the material is found to be hazardous, the Commissioner may direct the Contractor to remediate the hazard and a change to the Contract price may be provided, subject to the applicable provisions of the Contract.



PART III – EXECUTION

3.1 EMERGENCY SUSPENSION OF WORK:

- A. When the Contractor is notified by the Commissioner of noncompliance with the safety provisions of the Contract, the Contractor shall immediately, unless otherwise instructed, correct the unsafe condition, at no additional cost to the City.
- B. If the Contractor fails to comply promptly, all or part of the Work may be stopped by notice from the Commissioner.
- C. When, in the opinion of the Commissioner, the Contractor has taken satisfactory corrective action, the Commissioner shall provide written notice to the Contractor that the Work may resume.
- D. The Contractor shall not be allowed any extension of time or compensation for damages in connection with a work stoppage for an unsafe condition.

3.2 PROTECTION OF PERSONNEL:

- A. The Contractor shall take all necessary precautions to prevent injury to the public, occupants, or damage to property of others. The public and occupants includes all persons not employed by the Contractor or a subcontractor.
- B. Whenever practical, the work area shall be fenced, barricaded, or otherwise blocked off from the public or occupants to prevent unauthorized entry into the work area, in compliance with the requirements of Section 01 50 00 TEMPORARY FACILITIES, SERVICES AND CONTROLS, and including without limitation, the following:
 - 1. Provide traffic barricades and traffic control signage where construction activities occur in vehicular areas.
 - 2. Corridors, aisles, stairways, doors, and exit ways shall not be obstructed or used in a manner to encroach upon routes of ingress or egress utilized by the public or occupants, or to present an unsafe condition to the public or occupants.
 - 3. Store, position and use equipment, tools, materials, scraps and trash in a manner that does not present a hazard to the public or occupant by accidental shifting, ignition, or other hazardous activity.
 - 4. Store and transport refuse and debris in a manner to prevent unsafe and unhealthy conditions for the public and occupants. Cover refuse containers and remove refuse on a frequent regular basis acceptable to the Resident Engineer. Use tarpaulins or other means to prevent loose transported materials from dropping from trucks or other vehicles.

3.3 ENVIRONMENTAL PROTECTION:

- A. Dispose of solid, liquid and gaseous contaminants in accordance with local codes, laws, ordinances and regulations.
- B. Comply with applicable federal, state, and local noise control laws, ordinances, and regulations, including but not limited to 29 CFR 1910.95, 29 CFR 1926.52 and NYC Administrative Code Chapter 28 of Title 15.

END OF SECTION 01 35 26



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**SECTION 01 35 91
HISTORIC TREATMENT PROCEDURES**

REFER TO THE ADDENDUM FOR APPLICABILITY OF THIS SECTION 01 35 91

PART I – GENERAL

1.1 RELATED DOCUMENTS:

- A. The following documents apply to all required work for the Project: (1) the Contract Drawings, (2) the Specifications, (3) the General Conditions, (4) the Addendum, and (5) the Contract [City of New York Standard Construction Contract].

1.2 SUMMARY:

- A. This Section includes administrative and procedural requirements for the treatment of Landmark Structures and Landmark Quality Structures, as identified in the Addendum. Specific requirements are indicated in other sections of the Specifications.
- B. This Section includes, without limitation, the following:
1. Storage and protection of existing historic materials
 2. General Protection
 3. Protection during use of heat-generating equipment
 4. Photographic Documentation
 5. NYC Landmarks Preservation Commission Final Approval signoffs

1.3 RELATED SECTIONS: include without limitation the following:

- A. Section 01 10 00 SUMMARY
- B. Section 01 32 33 PHOTOGRAPHIC DOCUMENTATION
- C. Section 01 33 00 SUBMITTAL PROCEDURES
- D. Section 01 77 00 CLOSEOUT PROCEDURES
- E. Section 01 78 39 CONTRACT RECORD DOCUMENTS

1.4 DEFINITIONS:

- A. Refer to Article 2 of the Contract for definition of terms, words and expressions used in the General Conditions not otherwise defined herein.
- B. Design Consultant: "Design Consultant" means 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.
- C. Landmark Structure or Site: Any building or site which has been designated as a landmark, or any building or site within a landmark district, as designated by the New York City (NYC) Preservation Commission or the New York State Historic Preservation Office.
- D. Landmark Quality Structure: Any building which has been determined by the City to be of landmark quality and/or historical significance.



- E. Preservation: To apply measures necessary to sustain the existing form, integrity, and materials of a historic property. Work may include preliminary measures to protect and stabilize the property.
- F. Rehabilitation: To make possible a compatible use for a property through repair, alterations, and additions while preserving those portions or features that convey its historical, cultural, or architectural values.
- G. Restoration: To accurately depict the form, features, and character of a property as it appeared at a particular period of time by means of the removal of features from other periods in its history and the reconstruction of missing features from the restoration period.
- H. Reconstruction: To reproduce in the exact form and detail a building, structure, or artifact as it appeared at a specific period in time.
- I. Stabilize: To apply measures designed to reestablish a weather-resistant enclosure and the structural reinforcement of an item or portion of the building while maintaining the essential form as it exists at present.
- J. Protect and Maintain: To remove deteriorating corrosion, reapply protective coatings, and install protective measures such as temporary guards; to provide the least degree of intervention.
- K. Repair: To stabilize, consolidate, or conserve; to retain existing materials and features while employing as little new material as possible. Repair includes patching, piecing-in, splicing, consolidating, or otherwise reinforcing or upgrading materials. Within restoration, repair also includes limited replacement in kind, rehabilitation, and reconstruction, with compatible substitute materials for deteriorated or missing parts of features when there are surviving prototypes.
- L. Replace: To duplicate and replace entire features with new material in kind. Replacement includes the following conditions:
 - 1. Duplication: Includes replacing elements damaged beyond repair or missing. Original material is indicated as the pattern for creating new duplicated elements.
 - 2. Replacement with New Materials: Includes replacement with new material when original material is not available as patterns for creating new duplicated elements.
 - 3. Replacement with Substitute Materials: Includes replacement with compatible substitute materials. Substitute materials are not allowed, unless otherwise indicated.
- M. Remove: To detach items from existing construction and legally dispose of them off-site, unless indicated to be removed and salvaged or removed and reinstalled.
- N. Remove and Salvage: To detach items from existing construction and deliver them to the City ready for reuse.
- O. Remove and Reinstall: To detach items from existing construction, repair and clean them for reuse, and reinstall them where indicated.
- P. Existing to Remain or Retain: Existing items of construction that are not to be removed and that are not otherwise indicated to be removed and salvaged, or removed and reinstalled.
- Q. Material in Kind: Material that matches existing materials as much as possible, in species, cut, color, grain, and finish.

1.5 SUBMITTALS:

- A. Historic Treatment Program: Submit a written plan for each phase or process, including protection of surrounding materials during operations. Describe in detail materials, methods, and equipment to be used for each phase of the Work.
- B. Alternative Methods and Materials: If alternative methods and materials to those indicated are proposed for any phase of the Work, submit for the Commissioner's approval a written description, including



evidence of successful use on other comparable projects and provide a program of planned testing to demonstrate the effectiveness of the alternative methods and materials for use on this Project.

- C. Qualification Data: Submit qualification data for historic treatment specialists as specified and required by individual sections of the Project specifications.
- D. Photographs for Designated Landmark Structures: Submit photographs in accordance with Section 01 32 33 PHOTOGRAPHIC DOCUMENTATION and as described in this section.
- E. Record Documents: Include modifications to manufacturer's written instructions and procedures, as documented in the historic treatment preconstruction conference and as the Work progresses.

1.6 QUALITY ASSURANCE:

- A. Historic Treatment Specialist Qualifications: Refer to Section 01 40 00 QUALITY REQUIREMENTS for Qualifications for Historic Treatment Specialists.
- B. Historic Treatment Preconstruction Conference: The Resident Engineer will schedule and hold a preconstruction meeting at the site in accordance with Section 01 31 00 PROJECT MANAGEMENT AND COORDINATION.
 - 1. Review manufacturer's written instructions for precautions and effects of products and procedures on building materials, components, and vegetation.
 - a. Record procedures established as a result of the review and distribute to affected parties.

1.7 STORAGE AND PROTECTION OF HISTORIC MATERIALS:

- A. Removed and Salvaged Historic Materials: As specified and required by individual sections of the Project specifications.
- B. Removed and Reinstalled Historic Materials: As specified and required by individual sections of the Project specifications.
- C. Existing Historic Materials to Remain: Protect construction indicated to remain against damage and soiling during historic treatment. When permitted by the Commissioner, items may be removed to a suitable, protected storage location during historic treatment and reinstalled in their original locations after historic treatment operations are complete.
- D. Storage and Protection: When removed from their existing location, store historic materials, at a location acceptable to the Commissioner, within a weather tight enclosure where they are protected from wetting by rain, snow, or ground water, and temperature variations. Secure stored materials to protect from theft.
 - 1. Identify removed items with an inconspicuous mark indicating their original location.

PART II – PRODUCTS (Not Used)

PART III – EXECUTION

3.1 GENERAL PROTECTION:

- A. Comply with manufacturer's written precautions against harmful effects of products and procedures on adjacent building materials, components, and vegetation.
- B. Ensure that supervisory personnel are present when work begins and throughout its progress.
- C. Temporary Protection of Historic Materials during Construction:
 - 1. Protect existing materials during installation of temporary protections and construction. Do not deface or remove existing materials.



2. Attachments of temporary protection to existing construction must be approved by the Commissioner prior to installation.
- D. Protect landscape work adjacent to or within work areas as follows:
 1. Provide barriers to protect tree trunks.
 2. Bind spreading shrubs.
 3. Use coverings that allow plants to breathe and remove coverings at the end of each day. Do not cover plant material with a waterproof membrane for more than eight (8) hours at a time.
 4. Set scaffolding and ladder legs away from plants.
- E. Existing Drains: Prior to the start of work or any cleaning operations, test drains and other water removal systems to ensure that drains and systems are functioning properly. Notify the Commissioner immediately of drains or systems that are stopped or blocked. Do not begin Work pertaining to this Section until the drains are in working order.
 1. Provide a method to prevent solids, including stone or mortar residue, from entering the drains or drain lines. Clean out drains and drain lines that become blocked or filled by sand or any other solids because of the Work performed under this Contract.
 2. Protect storm drains from pollutants. Block drains or filter out sediments, allowing only clean water to pass.

3.2 PROTECTION DURING USE OF HEAT-GENERATING EQUIPMENT:

- A. No roofing work requiring the use of an open flame will be permitted on any Landmark Structure or any Landmark Quality Structure whose roof or wall structure is made of wood or primarily of wood.
- B. Comply with the following procedures while performing work with heat-generating equipment, including welding, cutting, soldering, brazing, paint removal with heat, and other operations where open flames or implements utilizing heat are used:
 1. Obtain Commissioner's approval for operations involving use of open-flame or welding equipment. Notification must be given for each occurrence and location of work with heat-generating equipment.
 2. Where possible, use heat-generating equipment in shop areas or outside the building.
 3. Before work with heat-generating equipment commences, furnish personnel to serve as a fire watch (or watches) for location(s) where work is to be performed.
 4. Do not perform work with heat-generating equipment in or near rooms or in areas where flammable liquids or explosive vapors are present or thought to be present. Use a combustible gas indicator test to ensure that the area is safe.
 5. Remove and keep the area free of combustibles, including rubbish, paper, waste, etc., within the area of operations.
 6. If combustible material cannot be removed, provide fireproof blankets to cover such materials.
 7. Where possible, furnish and use baffles of metal or gypsum board to prevent the spraying of sparks or hot slag into surrounding combustible material.
 8. Prevent the extension of sparks and particles of hot metal through open windows, doors, holes, and cracks in floors, walls, ceilings, roofs, and other openings.
 9. Inspect each location of the day's work not sooner than thirty (30) minutes after completion of operations to detect hidden or smoldering fires and to ensure that proper housekeeping is maintained.



- C. Where sprinkler protection exists and is functional, maintain it without interruption while operations are being performed. If operations are performed close to automatic sprinkler heads, shield the individual heads temporarily with guards.

3.3 PHOTOGRAPHIC DOCUMENTATION:

- A. Photographs for Designated Landmark Structures: Show existing conditions prior to any historic treatments, including one overall photograph and two close-up photographs of all areas of work affected. Show one overall photograph and two close-up photographs of all areas of work after the successful execution of all historical treatments.

3.4 NEW YORK CITY LANDMARKS PRESERVATION COMMISSION FINAL APPROVALS SIGNOFF:

- A. For all projects involving a Landmark Structure or Site, the Contractor, at the completion of the Work, must submit to the Commissioner, in accordance with Section 01 78 39 CONTRACT RECORD DOCUMENTS, all documentation concerning the successful execution of all historic treatments. This must include, but not be limited to, copies of all before and after photographs of historic treatments, one copy of the Contractor's as-built drawings, copies of testing and analysis results, including cleaning, mortar analysis, pointing mortars and all other information pertaining to work performed under the NYC Landmarks Preservation Commission jurisdiction.

END OF SECTION 01 35 91



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**SECTION 01 40 00
QUALITY REQUIREMENTS**

PART 1 – GENERAL

1.1 RELATED DOCUMENTS:

- A. The following documents apply to all required work for the Project: (1) the Contract Drawings, (2) the Specifications, (3) the General Conditions, (4) the Addendum, and (5) the Contract [City of New York Standard Construction Contract].

1.2 SUMMARY:

- A. This Section includes the following:
 - 1. Definitions
 - 2. Engineering Services
 - 3. Conflicting Requirements
 - 4. Quality Assurance
 - 5. Quality Control
 - 6. Approval of Materials
 - 7. Special Inspections (Controlled Inspection)
 - 8. Inspections by Other City Agencies
 - 9. Certificates of Approval
 - 10. Acceptance Tests
 - 11. Repair and Protection
- B. This section includes administrative and procedural requirements for quality control to assure compliance with quality requirements specified in the Contract Documents.
- C. Testing and inspecting services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Documents.
- D. Specified tests, inspections, and related actions do not limit Contractor's other quality assurance and quality control procedures that facilitate compliance with the Contract Documents.
- E. Provisions of this section do not limit requirements for the Contractor to provide quality assurance and quality control services required by the Commissioner or authorities having jurisdiction.
- F. Specific test and inspection requirements are specified in the individual sections of the Specifications.
- G. LEED: Refer to the Addendum to identify whether the Project is designed to comply with a Certification Level according to the U.S. Green Building Council's Leadership in Energy & Environmental Design (LEED) Rating System, as specified in Section 01 81 13.03 SUSTAINABLE DESIGN REQUIREMENTS FOR LEED v3 BUILDINGS or Section 01 81 13.04 SUSTAINABLE DESIGN REQUIREMENTS FOR LEED v4 BUILDINGS.
- H. COMMISSIONING: Refer to the Addendum to identify whether the Project will be commissioned by an independent third party under separate contract with the City of New York. Commissioning must be in accordance with ASHRAE and USGBC LEED-NC procedures, as described in Section 01 91 13 GENERAL COMMISSIONING REQUIREMENTS FOR MEP SYSTEMS and/ or Section 01 91 15 GENERAL COMMISSIONING REQUIREMENTS FOR BUILDING ENCLOSURE. The Contractor must cooperate with the Commissioning Agent and provide whatever assistance is required.



1.3 RELATED SECTIONS: Include without limitation the following:

- A. Section 01 10 00 SUMMARY
- B. Section 01 31 00 PROJECT MANAGEMENT AND COORDINATION
- C. Section 01 32 00 CONSTRUCTION PROGRESS DOCUMENTATION
- D. Section 01 33 00 SUBMITTAL PROCEDURES
- E. Section 01 77 00 CLOSEOUT PROCEDURES
- F. Section 01 78 39 CONTRACT RECORD DOCUMENTS

1.4 DEFINITIONS:

- A. Refer to Article 2 of the Contract for definition of terms, words and expressions used in the General Conditions not otherwise defined herein.
- B. Design Consultant: "Design Consultant" means 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.
- C. Commissioning: A Total Quality Assurance process that includes checking the design and installation of equipment, as well as performing functional testing of the same to confirm that the installed equipment is operating and in conformance with the Contract Documents and the City's requirements.
- D. Installer/ Applicator/ Erector: Contractor or another entity engaged by Contractor as an employee or Subcontractor, to perform installation, erection, application, assembly and similar operations.
- E. Mockups: Full-size physical assemblies that are constructed on-site either as freestanding temporary built elements or as part of permanent construction. Mockups are constructed to verify selections made under sample Submittals; to demonstrate aesthetic effects and qualities of materials and execution; to review coordination, testing, or operation; to show interface between dissimilar materials; and to demonstrate compliance with specified installation tolerances. Mockups are not samples. Unless otherwise indicated, approved mockups establish the standard by which the Work will be judged.
- F. Preconstruction Testing: Tests and inspections performed specifically for Project before products and materials are incorporated into the Work, to verify performance or compliance with specified criteria.
- G. Product Tests: Tests and inspections that are performed by a Nationally Recognized Testing Laboratory (NRTL) according to 29 CFR 1910.7, by a testing agency accredited according to NIST's National Voluntary Laboratory Accreditation Program (NVLAP), or by a testing agency qualified to conduct product testing and acceptable to authorities having jurisdiction, to establish product performance and compliance with specified requirements.
- H. Source Quality-Control Tests: Tests and inspections that are performed at the source; for example, plant, mill, factory, or shop.
- I. Testing Agency: An entity engaged to perform specific tests, inspections, or both. Testing laboratory means the same as testing agency.



- J. Quality-Assurance Services: Activities, actions, and procedures performed before and during execution of the Work to guard against defects and deficiencies and substantiate that proposed construction will comply with requirements.
- K. Quality-Control Services: Tests, inspections, procedures, and related actions during and after execution of the Work to evaluate that actual products incorporated into the Work and completed construction comply with requirements.

1.5 ENGINEERING SERVICES

- A. Performance and Design Criteria: Where professional design services provided by a professional engineer are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated.
 - 1. If criteria indicated are insufficient to perform services or certification required, submit a written request for clarification to the Commissioner.

1.6 CONFLICTING REQUIREMENTS:

- A. General: If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, the Contractor must comply with the most stringent requirement. The Contractor must refer any uncertainties and/or conflicting requirements to the Commissioner for a decision before proceeding.
- B. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified must be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. The Contractor must refer any uncertainties to the Commissioner for a decision before proceeding.

1.7 QUALITY ASSURANCE:

- A. General: Qualifications paragraphs in this Article establish the minimum qualification levels required. Individual Specification Sections may specify supplementary qualification requirements.
 - 1. **Minimum Experience:** Minimum Experience qualification levels as described herein, apply to all entities indicated in the Specification Sections for the Project, unless such entity requires Special Experience requirements per Subsection 1.7 A.2. below. Individual Specification Sections may specify supplementary qualification requirements.
 - 2. **Special Experience:** Special Experience qualification levels as described herein, apply to all entities indicated in the "Special Experience Requirements" page of the PASSPort procurement. Individual Specification Sections may specify supplementary qualification requirements.
- B. **Minimum Experience qualification levels:**
 - 1. **Qualifications for Installer or Applicator or Erector:** An entity complying with the requirements of authorities having jurisdiction; having a minimum of three (3) consecutive years of experience in installing, erecting, applying, or assembling work in a timely fashion similar in material, design, and extent to that indicated for the Project, and whose work has resulted in construction with a record of successful in-service performance.
 - 2. **Qualifications for Installer or Applicator or Erector requiring approval or certification or**



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authorization by Manufacturer: An entity complying with the requirements of authorities having jurisdiction; having a minimum of three (3) consecutive years of experience in installing, erecting, applying, or assembling work in a timely fashion similar in material, design, and extent to that indicated for the Project, and whose work has resulted in construction with a record of successful in-service performance. In addition, the entity must be approved, or certified, or authorized by the manufacturers listed in the Specification Section and must be eligible to receive manufacturers' warranty.

3. **Qualifications for Fabricator:** An entity complying with the requirements of authorities having jurisdiction; having a minimum of three (3) consecutive years of experience in producing products similar to those indicated for the Project; having a record of successful in-service performance, and having sufficient production capacity to produce required units.
4. **Qualifications for Manufacturer:** An entity complying with the requirements of authorities having jurisdiction; having a record of a minimum of three (3) consecutive years in manufacturing products or systems similar to those indicated for the Project; having a record of successful in-service performance for not less than three (3) years and having sufficient production capacity to produce required units. Manufacturer must meet warranty requirements and technical or factory-authorized service representative requirements.
5. **Qualifications for Specialist:** An entity complying with the requirements of authorities having jurisdiction; satisfying qualification requirements indicated in the Specification Section and having a record of a minimum of three (3) consecutive years of experience successfully engaged in the activities indicated.

C. Special Experience Qualification Levels:

1. **Special Qualifications for Installer or Applicator or Erector:** An entity complying with the requirements of authorities having jurisdiction; having, prior to the bid opening, a minimum of five (5) consecutive years of experience in installing, erecting, applying, or assembling work similar in material and design to that indicated for the Project, and whose work has resulted in construction with a record of successful in-service performance on a minimum of three (3) projects similar in scope and size required for the Project.
2. **Special Qualifications for Fabricator:** An entity complying with the requirements of authorities having jurisdiction; having a minimum of five (5) consecutive years of experience in producing products similar to those indicated for the Project; having completed a minimum of three (3) projects similar in nature, size, and extent, to the requirement of the project; having a record of successful in-service performance, as well as sufficient production capacity to produce required units.
3. **Special Qualifications for Installer of a Manufacturer-Warranted Roof System:** An entity complying with the requirements of authorities having jurisdiction; regularly engaged in performing roofing projects with its own workforce; having successfully completed in a timely fashion within the last three (3) consecutive years prior to the bid opening, at least three (3) roofing projects similar in scope, size and type to the required Project, and having performed at least one (1) of those projects in the last twelve (12) months. The three (3) qualifying projects must have utilized one or more of the roofing systems specified for the project being bid herein, been installed by the entity utilizing its own workforce and must have qualified for, and have been issued, the warranty provided by the manufacturer of the roofing system. In addition, the entity must be a certified or authorized installer for the manufacturer's roofing systems specified herein and must submit proof of same.



4. **Special Qualifications for Installer of Roof tie-in to maintain existing Roof System**
Warranty: An entity complying with the requirements of authorities having jurisdiction; regularly engaged in performing roofing projects with its own workforce; having successfully completed in a timely fashion within the last three (3) consecutive years prior to the bid opening, at least three (3) roofing projects similar in scope, size and type to the required Project, and having performed at least one (1) of those projects in the last twelve (12) months. The three (3) qualifying projects must have utilized the manufacturer and manufacturer's Product, been installed by the entity utilizing its own workforce and must have qualified for, and have been issued, the warranty provided by the manufacturer listed in the technical specification. In addition, the entity must be a certified or authorized installer for this manufacturer's specified roofing system specified herein and must submit proof of same.
 5. **Special Qualifications for Manufacturer:** An entity complying with the requirements of authorities having jurisdiction; having a minimum of five (5) consecutive years of experience in manufacturing products or systems similar to those indicated for the Project; having completed a minimum of three (3) projects similar in nature, size, and extent, to the requirements of the project; having a record of successful in-service performance, as well as sufficient production capacity to produce required units. Manufacturer must meet warranty requirements, and technical or factory-authorized service representative requirements.
 6. **Special Qualifications for Historic Treatment Specialist:** An entity complying with the requirements of authorities having jurisdiction; having prior to the bid opening, a minimum of five (5) consecutive years of experience in completing in a timely fashion at least three (3) projects similar in scope, size, and type to the required work, based on architectural style, construction method and materials and age of building for the project. One (1) such prior project of the three (3) must have involved a landmarked building, as officially designated by the City, State, or Federal government.
- D. **Professional Engineer Qualifications:** A professional engineer who is licensed and registered to practice in the State of New York and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installations of the system, assembly, or products that are similar to those indicated for the Project in material, design, and extent.
 - E. **Factory-Authorized Service Representative Qualifications:** An authorized representative of manufacturer who is trained and approved by manufacturer to observe and inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for the Project.
 - F. **Testing Agency Qualifications:** A Nationally Recognized Testing Laboratory (NRTL), a National Voluntary Laboratory Accreditation Program (NVLAP), or an independent agency with the experience and capability to conduct testing and inspection indicated, as documented according to ASTM E329 (Standard Specification for Agencies Engaged in Construction Inspection, Testing, or Special Inspection); and with additional qualifications specified in individual Specification Sections; and, where required by authorities having jurisdiction, that is acceptable to authorities.
 - G. **Preconstruction Testing:** Where testing agency is indicated to perform preconstruction testing for compliance with specified requirements for performance and test methods, comply with the following:
 1. Contractor responsibilities include the following:
 - a. Provide test specimens representative of proposed products and construction.
 - b. Submit specimens in a timely manner with sufficient time for testing and analyzing results to prevent delaying the Work.
 - c. Provide sizes and configurations of test assemblies, mockups, and laboratory mockups to adequately demonstrate capability of products to comply with performance requirements.
 - d. Build site-assembled test assemblies and mockups using installers who will perform same



- tasks for Project.
- e. Build laboratory mockups at testing facility using personnel, products, and methods of construction indicated for the completed Work.
- f. When testing is complete, remove test specimens and test assemblies, and mockups, and laboratory mockups; do not reuse products on Project.
- 2. Testing Agency Responsibility: Submit a certified written report of each test, inspection, and similar quality-assurance service to Commissioner, with copy to Contractor. Interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from the Contract Documents.
- H. Mockups: Before installing portions of the Work requiring mockups, build mockups for each form of construction and finish required to comply with the following requirements, using materials indicated for the completed Work:
 - 1. Build mockups in location and of size indicated or, if not indicated, as directed by the Commissioner.
 - 2. Notify Commissioner seven (7) days in advance of dates and times when mockups will be constructed.
 - 3. Demonstrate the proposed range of aesthetic effects and workmanship.
 - 4. Obtain Design Consultant's approval of mockups before starting work, fabrication, or construction.
 - 5. Maintain mockups during construction in an undisturbed condition as a standard for judging the completed Work.
 - 6. Demolish and remove mockups when directed, unless otherwise directed or indicated.
- I. Integrated Exterior Mockups: Construct integrated exterior mockup according to approved Shop Drawings or as indicated on Drawings. Coordinate installation of exterior envelope materials and products for which mockups are required in individual Specification Sections, along with supporting materials. Comply with requirements in "Mockups" Paragraph in this Section.
- J. Room Mockups: Construct room mockups according to approved Shop Drawings or as indicated on Drawings, incorporating required materials and assemblies, finished according to requirements. Provide required lighting and additional lighting where required to enable Architect to evaluate quality of the Work. Comply with requirements in "Mockups" Paragraph in this Section.
- K. Laboratory Mockups: Comply with the requirements of preconstruction testing and those specified in individual Specification Sections.

1.8 QUALITY CONTROL:

- A. City's Responsibilities: Where quality-control services are indicated as the City's responsibility in the Specifications, the City will engage a qualified testing agency to perform these services. (Refer to Special Inspections Article 1.10.)
 - 1. COST OF TESTS BORNE BY THE CITY: Where the City directs tests to be performed to determine compliance with the Specifications regarding materials or equipment, and where such compliance is ascertained as a result thereof, the City will bear the cost of such tests.
 - 2. The City will furnish the Contractor with names, addresses, and telephone numbers of testing entities engaged and a description of the types of testing and inspecting they are engaged to perform.
 - 3. Costs for retesting and re-inspecting construction that replaces or is necessitated by work that failed to comply with the Contract Documents will be charged to the Contractor.
- B. Contractor's Responsibility: Tests and inspections not explicitly assigned to the City are the Contractor's responsibility. Unless otherwise indicated, the Contractor must provide quality control services as set forth in the Specifications and those required by authorities having jurisdiction, whether specified or not.



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1. **COST OF TESTS BORNE BY CONTRACTOR** – In the case of tests which are specifically called for in the Specifications to be provided by the Contractor or tests which are required by any authority having jurisdiction, but are not indicated as the responsibility of the City, the cost thereof will be borne by the Contractor and will be deemed to be included in the Contract price. The Contractor must reimburse the City for expenditures incurred in providing tests on materials and equipment submitted by the Contractor as the equivalent of that specifically named in the Specifications and rejected for non-compliance.
 2. Where services are indicated as Contractor's responsibility, the Contractor must engage a qualified testing agency to perform these quality-control services. Any testing agency engaged by the Contractor to perform quality control services is subject to prior approval by the Commissioner.
 3. The Contractor must not employ same entity engaged by the City, unless agreed to in writing by the Commissioner.
 4. The Contractor must notify testing agencies and the Commissioner at least 72 hours in advance of the date and time for the performance of Work that requires testing or inspecting.
 5. Where quality control services are indicated as Contractor's responsibility, the Contractor must submit a certified written report of each quality-control service, in triplicate, to the Commissioner.
 6. Testing and inspecting requested by the Contractor and not required by the Contract Documents are Contractor's responsibility.
 7. The Contractor must submit additional copies of each written report directly to authorities having jurisdiction, when they so direct.
- C. **Manufacturer's Field Services:** Where indicated, the Contractor must engage a factory-authorized service representative to inspect field-assembled components and equipment installation, including service connections. Results must be submitted in writing as specified in Section 01 33 00 SUBMITTAL PROCEDURES. Manufacturer's field representative's services include participation in preinstallation conferences, examination of substrates and conditions, verification of materials, observation of Installer activities, inspection of completed portions of the Work, and submittal of written reports.
- D. **Retesting/Re-inspecting:** Regardless of whether the original tests or inspections were the Contractor's responsibility, the Contractor must provide quality control services, including retesting and re-inspecting, for construction that replaced Work that failed to comply with the Contract Documents.
- E. **Testing Agency Responsibilities:** Cooperate with Commissioner and Contractor in performance of duties. Provide qualified personnel to perform required tests and inspections.
1. Notify Commissioner and Contractor promptly of irregularities or deficiencies observed in the Work during performance of its services.
 2. Determine the locations from which test samples will be taken and in which in-situ tests are conducted.
 3. Conduct and interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from requirements.
 4. Submit a certified written report, in duplicate, of each test, inspection, and similar quality-control service through Contractor.
 5. Do not release, revoke, alter, or increase the Contract Document requirements or approve or accept any portion of the Work.
 6. Do not perform duties of Contractor.
- F. **Associated Services:** The Contractor must cooperate with entities performing required tests, inspections, and similar quality control services, and must provide reasonable auxiliary services as requested. The Contractor must notify the testing agency sufficiently in advance of operations to permit assignment of personnel. Provide the following:
1. Access to the Work.
 2. Incidental labor and facilities necessary to facilitate tests and inspections.



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3. Adequate quantities of representative samples of materials that require testing and inspecting. Assist testing entity in obtaining samples.
 4. Facilities for storage and field curing of test samples.
 5. Delivery of samples to testing entities.
 6. Design mix proposed for use for material mixes that require control by the testing entity.
 7. Security and protection for samples and for testing and inspecting equipment at the Project site.
- G. Coordination: Coordinate sequence of activities to accommodate required quality assurance and quality control services with minimal delay and avoid necessity of removing and replacing construction to accommodate testing and inspecting.
1. Schedule times for tests, inspections, obtaining samples, and similar activities.
 2. Coordinate and cooperate with the Commissioning Authority/Agent as applicable for start-up, inspection and functional testing in the implementation of the Commissioning Plan.
- H. Manufacturer's Directions: Where the Specifications provide that the manufacturer's directions are to be used, such printed directions must be submitted to the Commissioner.
- I. Inspection of Material: In the event that the Specifications require the Contractor to engage the services of an entity to witness and inspect any material especially manufactured or prepared for use in or part of the permanent construction, such entity will be subject to prior written approval by the Commissioner.
1. NOTICE - The Contractor must give notice in writing to the Commissioner, sufficiently in advance of its intention to commence the manufacture or preparation of materials especially manufactured or prepared for use in or as part of the permanent construction. Such notice must contain a request for inspection, the date of commencement, and the expected date of completion of the manufacture or preparation of materials. Upon receipt of such notice, the Commissioner will arrange to have a representative present at such times during the manufacture as may be necessary to inspect the materials, or the Commissioner will notify the Contractor that the inspection will be made at a point other than the point of manufacture, or the Commissioner will notify the Contractor that inspection will be waived.
- J. No Shipping Before Inspection: The Contractor must comply with the foregoing before shipping any material.
- K. Certificate of Manufacture: When the Commissioner so requires, the Contractor must furnish to the Commissioner, authoritative evidence in the form of Certificates of Manufacture that the materials to be used in the Work have been manufactured and tested in conformity with the Specifications. These certificates must include copies of the results of physical tests and chemical analyses where necessary, that have been made directly on the product, or on similar products being fabricated by the manufacturer. This may include such approvals as the Bureau of Standards and Appeals (B.S.A.), the Materials and Equipment (M.E.A.) acceptance Index, the Bureau of Electrical Control (B.E.C.), etc.
- L. Acceptance: When materials or manufactured products comprise of such quantity that it is not practical to make physical tests or chemical analyses directly on the product furnished, a certificate stating the results of such tests or analyses of similar materials which were concurrently produced may, at the discretion of the Commissioner, be considered as the basis for the acceptance of such material or manufactured product.
- M. Testing Compliance: The testing personnel must make the necessary inspections and tests, and the reports thereof must be in such form as will facilitate checking to determine compliance with the Specifications, indicating thereon all analyses and/or test data and interpreted results thereof.
- N. Reports: Reports in duplicate must be submitted and authoritative certification thereof must be furnished to the Commissioner as a prerequisite for the acceptance of any material or equipment.



- O. Rejections: If, in making any test, it is ascertained by the Commissioner that the material or equipment does not comply with the Specifications, the Contractor will be notified thereof, and will be directed to refrain from delivering said materials or equipment, or to promptly remove it from the site or from the Work and replace it with acceptable material at no additional cost to the City.
- P. Furnish Designated Materials: Upon rejection of any material or equipment submitted as the equivalent of that specifically named in the Specifications, the Contractor must immediately proceed to furnish the designated material or equipment.

1.9 APPROVAL OF MATERIALS:

- A. Local Laws: All materials, appliances and types or methods of construction must be in accordance with the Specifications and must in no event be less than that necessary to conform to the requirements of the New York City (NYC) Construction Codes, Administrative Code and Charter of the City of New York.
- B. Approval of Manufacturer: The names of proposed manufacturers, material suppliers, and dealers who are to furnish materials, fixtures, equipment, appliances or other fittings must be submitted to the Commissioner for approval, as early as possible, to afford proper review and analysis. No manufacturer will be approved for any materials to be furnished under the Contract unless it has a plant of ample capacity and have successfully produced similar products. All approvals of materials or equipment that are legally required by the NYC Construction Codes and other governing authorities must be obtained prior to installation.
- C. All Materials: Fixtures, fittings, supplies and equipment furnished under the Contract must be new and unused, except as approved by the Commissioner, and of standard first-grade quality and of the best workmanship and design. The City of New York encourages the use of recycled products where practical.
- D. INFORMATION TO SUPPLIERS - In asking for prices on materials under any item of the Contract, the Contractor must provide the manufacturer or dealer with such complete information from the Specifications and Contract Drawings as may in any case be necessary, and in every case the Contractor must inform the manufacturer or dealer of all the General Conditions and requirements herein contained.

1.10 SPECIAL INSPECTIONS:

- A. SPECIAL INSPECTIONS:
 - 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 NYC Construction Codes, will 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, except as noted below for Form TR-3: Technical Report for Concrete Design Mix. The Special Inspector will be an entity that is in compliance with the requirements of the NYC Construction Codes. The Contractor must notify the relevant Special Inspector in writing at least 72 hours before the commencement of any Work requiring special inspection.
 - 2. Form TR3: Technical Report Concrete Design Mix: The Contractor will be responsible for, and bear all costs associated with the filing and securing of approvals, if any, for Form TR3: Technical Report Concrete Design Mix, including, but not limited to, 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.
 - 3. The Contractor must notify the relevant Special Inspector in writing at least 72 hours before the commencement of any Work requiring Special Inspection. The Contractor will be responsible for



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and bear related costs to assure that all construction or work has suitable access and remains exposed for inspection purposes until the required inspection is completed.

4. Inspections and tests performed under “Special Inspection” will 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 Resident Engineer or DDC Project Manager to provide access and schedule the Work for inspection by the Special Inspector.

1.11 INSPECTIONS BY OTHER CITY AGENCIES:

- A. Letter of Completion: Just prior to Substantial Completion of the Project, the Commissioner will file with the Department of Buildings, an application for a Letter of Completion or a Certificate of Occupancy for the structure.
- B. Final Inspections: In connection with the above-mentioned application for a Letter of Completion or a Certificate of Occupancy and before certificates of final payments are issued, the Contractor will be required to arrange for all final inspections by the inspection staff of the Department of Buildings, Fire Department, or other Governmental Agencies having jurisdiction, and secure all reports, sign offs, certificates, etc., by such inspection staff or other governmental agencies, in order that a Letter of Completion or Certificate of Occupancy can be issued promptly.

1.12 CERTIFICATES OF APPROVAL:

- A. Responsibility: The Contractor will be responsible for and must obtain all final approvals for the Work installed under the Contract in the form of such certificates that are required by all governmental agencies having jurisdiction over the Work of the Contract.
- B. Transmittal: All such certificates must be forwarded to the DDC.

1.13 ACCEPTANCE TESTS:

- A. Government Agencies: All equipment and appliances furnished and installed under the Contract must conform to the requirements of the Specifications and will in no event be less than that necessary to comply with the minimum requirements of the law and all of the governmental agencies having jurisdiction.
- B. Notice of Tests: Whenever the Specifications and/or any governmental agency having jurisdiction requires the acceptance test, the Contractor will give to all concerned, written notice of the time when these tests will be conducted.
- C. Energy: The City will furnish all energy, fuel, water, and light required for tests.
- D. Labor and Materials: The Contractor must furnish labor and all other material and instruments necessary to conduct the acceptance tests at no additional cost to the City.
- E. Certificates: The Final Acceptance by the Commissioner will be contingent upon the Contractor delivering to the Commissioner all necessary certificates evidencing compliance in every respect with the requirements of the regulatory agencies having jurisdiction.
- F. Results: If the results of tests and Special Inspections indicate that the material or procedures do not meet requirements as set forth on the Contract Drawings or in the Specifications or are otherwise unsatisfactory, the Contractor must only proceed as directed by the Commissioner. Additional costs resulting from retesting, re-inspecting, replacing of material and/or damage to the Work and any delay caused to the schedule will be borne by the Contractor.

PART II – PRODUCTS (Not Used)



PART III – EXECUTION

3.1 REPAIR AND PROTECTION

- A. General: On completion of testing, inspecting, sample taking, and similar services, the Contractor must repair damaged construction and restore substrates and finishes.
 - 1. Provide materials and comply with installation requirements specified in other Specification Sections. Restore patched areas and extend restoration into adjoining areas with durable seams that are as invisible as possible.

END OF SECTION 01 40 00



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**SECTION 01 42 00
REFERENCES**

PART 1 – GENERAL

1.1 RELATED DOCUMENTS:

- A. The following documents apply to all required work for the Project: (1) the Contract Drawings, (2) the Specifications, (3) the General Conditions, (4) the Addendum, and (5) the Contract [City of New York Standard Construction Contract].

1.2 DEFINITIONS:

<p>REFER TO THE ADDENDUM, Article IX, FOR ADDITIONAL DEFINITIONS AND REVISIONS TO THE CONTRACT AND SPECIFICATIONS</p>
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- A. Refer to Article 2 of the Contract for definition of terms, words and expressions used in the General Conditions not otherwise defined herein.
- B. "APPROVED," ETC. - "Approved," "acceptable," "satisfactory," and words of similar import will mean and intend approved, acceptable, or satisfactory to the Commissioner.
- C. Design Consultant: "Design Consultant" means 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.
- D. "DIRECTED," "REQUIRED," ETC.- Wherever reference is made in the Contract to the Work or its performance, the terms "directed," "required," "permitted," "ordered," "designated," "prescribed," "determined," and words of similar import will, unless expressed otherwise, imply the direction, requirements, permission, order, designation or prescription of the Commissioner.
- E. "Indicated": Requirements expressed by graphic representations or in written form on Drawings, in Specifications, and in other Contract Documents. Other terms including "shown," "noted," "scheduled," and "specified" have the same meaning as "indicated."
- F. "Furnish": Supply and deliver to Project site, ready for unloading, unpacking, assembly, installation, and similar operations.
- G. "Install": Operations at Project site including unloading, temporarily storing, unpacking, assembling, erecting, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations.
- H. "Provide": Furnish and install, complete and ready for the intended use.
- I. "Project Site": Space available for performing construction activities. The extent of Project site is shown on Drawings.



1.3 CODES, AGENCIES AND REGULATIONS:

A.B.A	Architectural Barriers Act
A.D.A.A.G.	Americans with Disabilities Act (ADA) Accessibility Guidelines
B.G. & E.	Bureau of Gas and Electricity of the City of New York
B.S. A.	New York City Board of Standards and Appeals
DOE	Department of Energy
E.C.C.C.N.Y.S.	Energy Conservation Construction Code of New York State
EPA	Environmental Protection Administration
N.Y.C.C.C.	New York City Construction Codes
N.Y.C.P.C.	New York City Plumbing Code
N.Y.C.B.C.	New York City Building Code
N.Y.C.M.C.	New York City Mechanical Code New York
N.Y.C.F.G.C.	New York City Fuel Gas Code
N.Y.S. D.O.L	New York State Department of Labor
N.Y.C.D.O.B.	New York City Department of Buildings
N.Y.C.D.E.P.	New York City Department of Environmental Protection
N.Y.C.D.O.T.	New York City Department of Transportation
N.Y.C.E.C.	New York City Electrical Code
N.Y.C.E.C.C	New York City Energy Conservation Code
N.Y.C.F.C.	New York City Fire Code
N.Y.S...D.E.C.	New York State Department of Environmental Conservation
O.S.H.A.	Occupational Safety & Health Administration

1.4 INDUSTRY STANDARDS:

- A. STANDARD REFERENCES – Unless otherwise specifically indicated in the Contract Documents, whenever reference is made to the furnishing of materials or testing thereof that conforms to the standards of any technical society, organization or body, it must be construed to mean the latest standard, code, specification adopted and published by that technical society, organization or body, as of the date of the bid opening, unless the provisions of the N.Y.C.C.C. adopts a different or earlier dated version of such standard. All references to the ICC A117.1 are only to the 2009 version, whether or not a specific version is specified.
- B. APPLICABILITY OF STANDARDS: Unless the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect, to the extent referenced, as if bound or copied directly into the Contract Documents. Such standards are made a part of the Contract Documents by reference.
- C. CONFLICTING REQUIREMENTS: Where compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantity or quality, comply with the most stringent requirements. Immediately refer uncertainties and requirements that are different but apparently equal, to the Commissioner in writing for a decision before proceeding.



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- D. STANDARD SPECIFICATIONS - When no reference is made to a code, standard, or specification, the Standard Specifications of the ASTM or the AIEE, as the case may be, shall govern.
- E. REFERENCES - Reference to a technical society, organization, or body may be made in the Specifications by abbreviations. Abbreviations and acronyms used in the Specifications and other Contract Documents mean the associated name. The following names are subject to change and are believed, but are not assured, to be accurate and up-to-date as of the Issue Date of the Contract Documents.

AA	Aluminum Association, Inc. (The)
AAADM	American Association of Automatic Door Manufacturers
AABC	Associated Air Balance Council
AAMA	American Architectural Manufacturers Association
AAPFCO	Association of American Plant Food Control Officials
AASHTO	American Association of State Highway and Transportation Officials
AATCC	American Association of Textile Chemists and Colorists (The)
ABAA	Air Barrier Association of America
ABMA	American Bearing Manufacturers Association
ACI	ACI International (American Concrete Institute)
ACAC	American Council for Accredited Certification
ACPA	American Concrete Pipe Association
AEIC	Association of Edison Illuminating Companies, Inc. (The)
AF&PA	American Forest & Paper Association
AGA	American Gas Association
AGC	Associated General Contractors of America (The)
AGMA	American Gear Manufacturer Association
AHA	American Hardboard Association (Now part of CPA)
AHAM	Association of Home Appliance Manufacturers



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AI	Asphalt Institute
AIA	American Institute of Architects (The)
AIEE	American Institute of Electrical Engineers
AIHA	American Industrial Hygiene Association
AISC	American Institute of Steel Construction
AISI	American Iron and Steel Institute
AITC	American Institute of Timber Construction
ALCA	Associated Landscape Contractors of America (Now PLANET - Professional Landcare Network)
ALSc	American Lumber Standard Committee, Incorporated
ALI	Automotive Lift Institute
AMCA	Air Movement and Control Association International, Inc.
ANSI	American National Standards Institute
AOSA	Association of Official Seed Analysts, Inc.
APA	APA - The Engineered Wood Association
APA	Architectural Precast Association
API	American Petroleum Institute
ARI	Air-Conditioning & Refrigeration Institute
ARMA	Asphalt Roofing Manufacturers Association
ASA	American Standards Association
ASAE	American Society of Agricultural Engineers
ASCE/SEI	American Society of Civil Engineers, Structural Engineering Institute
ASHRAE	American Society of Heating, Refrigerating and Air-Conditioning Engineers
ASME	American Society of Mechanical Engineers
ASSE	American Society of Sanitary Engineering



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ASTM	ASTM International (Formerly: American Society for Testing and Materials International)
AWCI	AWCI International (Association of the Wall and Ceiling Industry International)
AWCMA	American Window Covering Manufacturers Association (Now WCSC)
AWI	Architectural Woodwork Institute
AWPA	American Wood-Preservers' Association
AWSC	American Welding Society
AWWA	American Water Works Association
BHMA	Builders Hardware Manufacturers Association
BIA	Brick Industry Association (The)
BICSI	Building Industry Consulting Services International
BIFMA	BIFMA International (Business and Institutional Furniture Manufacturer's Association International)
BISSC	Baking Industry Sanitation Standards Committee
CIBSE	Chartered Institute of Building Services Engineers
CCC	Carpet Cushion Council
CDA	Copper Development Association
CEA	Consumer Electronics Association
CESB	Council of Engineering and Scientific Specialty Boards
CFFA	Chemical Fabrics & Film Association, Inc.
CFSEI	Cold-Formed Steel Engineers Institute
CGA	Compressed Gas Association
CGSB	Canadian General Standards Board
CIMA	Cellulose Insulation Manufacturers Association
CIPRA	Cast Iron Pipe Research Association



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CISCA	Ceilings & Interior Systems Construction Association
CISPI	Cast Iron Soil Pipe Institute
CLFMI	Chain Link Fence Manufacturers Institute
CPA	Composite Panel Association
CPPA	Corrugated Polyethylene Pipe Association
CPSC	Consumer Product Safety Commission
CRI	Carpet & Rug Institute (The)
CRSI	Concrete Reinforcing Steel Institute
CSA	Canadian Standards Association
CSI	Cast Stone Institute
CSI	Construction Specifications Institute (The)
CSSA	Certified Steel Stud Association
CSSB	Cedar Shake & Shingle Bureau
CTI	Cooling Technology Institute (Formerly: Cooling Tower Institute)
DASMA	Door and Access Systems Manufacturer's Association International
DHI	Door and Hardware Institute
DOC	U.S. Department of Commerce – National Institute of Standards and Technology
EIA	Electronic Industries Alliance
DOJ	U.S. department of Justice
EIMA	EIFS Industry Members Association
DOL	U.S. Department of labor
EJCDC	Engineers Joint Contract Documents Committee



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DOTn	U.S. Department of Transportation
EN	European Committee of Standards
EJMA	Expansion Joint Manufacturers Association, Inc.
ESD	ESD Association
EVO	Efficiency Valuation Organization
FEMA	Federal Emergency Management Agency
FIBA	Federation Internationale de Basketball Amateur (The International Basketball Federation)
FIVB	Federation Internationale de Volleyball (The International Volleyball Federation)
FMG	FM Global (Formerly: FM - Factory Mutual System)
FMRC	Factory Mutual Research (Now FMG)
FRSA	Florida Roofing, Sheet Metal & Air Conditioning Contractors Association, Inc.
FSA	Fluid Sealing Association
FSC	Forest Stewardship Council
GA	Gypsum Association
GANA	Glass Association of North America
GRI	(Now GSI)
GS	Green Seal
GSI	Geosynthetic Institute
HI	Hydraulic Institute
HI	Hydronics Institute
HMMA	Hollow Metal Manufacturers Association (Part of NAAMM)
HPVA	Hardwood Plywood & Veneer Association
HPW	H. P. White Laboratory, Inc.



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HUD	U.S. Department of Housing and Urban Development
IAPMO	International Association of Plumbing and Mechanical Officials
IAS	International Approval Services (Now CSA International)
IBF	International Badminton Federation
ICC	International Code Council, Inc.
ICEA	Insulated Cable Engineers Association, Inc.
ICRI	International Concrete Repair Institute, Inc.
IEC	International Electrotechnical Commission
IEEE	Institute of Electrical and Electronics Engineers, Inc. (The)
IESNA	Illuminating Engineering Society of North America
IENT	Institute of Environmental Sciences and Technology
IGCC	Insulating Glass Certification Council
IGMA	Insulating Glass Manufacturers Alliance
IICRC	Institute of Inspection, Cleaning, and Restoration
ILIA	Indiana Limestone Institute of America, Inc.
IPEMA	International Play Equipment Manufacturers Association
ISA	International Society of Arboriculture
ISO	International Organization for Standardization
ISSFA	International Solid Surface Fabricators Association
ITS	Intertek
ITU	International Telecommunication Union
KCMA	Kitchen Cabinet Manufacturers Association
LMA	Laminating Materials Association (Now part of CPA)



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LPI	Lightning Protection Institute
MBMA	Metal Building Manufacturers Association
MFMA	Maple Flooring Manufacturers Association, Inc.
MFMA	Metal Framing Manufacturers Association
MH	Material Handling (Now MHIA)
MHIA	Material Handling Industry of America
MIA	Marble Institute of America
MIL	Military Specification Standards of the US Dept of Defense
MPEG	Moving Picture Experts Group
MPI	Master Painters Institute
MSS	Manufacturers Standardization Society of The Valve and Fittings Industry Inc.
NAAMM	National Association of Architectural Metal Manufacturers
NACE	NACE International (National Association of Corrosion Engineers International)
NADCA	National Air Duct Cleaners Association
NAGWS	National Association for Girls and Women in Sport
NAIMA	North American Insulation Manufacturers Association
NBA	National Basketball Association
NBGQA	National Building Granite Quarries Association, Inc.
NCAA	National Collegiate Athletic Association (The)
NCMA	National Concrete Masonry Association
NCPI	National Clay Pipe Institute
NCTA	National Cable & Telecommunications Association
NEBB	National Environmental Balancing Bureau



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NECA	National Electrical Contractors Association
NeLMA	Northeastern Lumber Manufacturers' Association
NEMA	National Electrical Manufacturers Association
NETA	InterNational Electrical Testing Association
NFHS	National Federation of State High School Associations
NFPA	NFPA (National Fire Protection Association)
NFRC	National Fenestration Rating Council
NGA	National Glass Association
NHLA	National Hardwood Lumber Association
NICET	National Institute for Certification in Engineering Technologies
NLGA	National Lumber Grades Authority
NIS	National Institute of Standards and Technology
NOFMA	NOFMA: The Wood Flooring Manufacturers Association (Formerly: National Oak Flooring Manufacturers Association)
NRCA	National Roofing Contractors Association
NRDCA	National Roof Deck Association
NRMCA	National Ready Mixed Concrete Association
NSF	NSF International (National Sanitation Foundation International)
NSSGA	National Stone, Sand & Gravel Association
NTMA	National Terrazzo & Mosaic Association, Inc. (The)
NTRMA	National Tile Roofing Manufacturers Association (Now TRI)
NWWDA	National Wood Window and Door Association (Now WDMA)
OPL	Omega Point Laboratories, Inc. (Acquired by ITS - Intertek)
PCI	Precast / Pre-stressed Concrete Institute



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PDCA	Painting & Decorating Contractors of America
PDI	Plumbing & Drainage Institute
PGI	PVC Geomembrane Institute
PLANET	Professional Landcare Network (Formerly: ACLA - Associated Landscape Contractors of America)
PPS	Power Piping Society
PTI	Post-Tensioning Institute
RCSC	Research Council on Structural Connections
RFCI	Resilient Floor Covering Institute
RIS	Redwood Inspection Service
RMI	Rack Manufacturers Institute
RTI	(Formerly: NTRMA - National Tile Roofing Manufacturers Association) (Now TRI)
RUS	Rural Utilities Service, Department of Agriculture
SAE	SAE International
SCAQMD	South Coast Air Quality Management District
SCS	Scientific Certification System
SDI	Steel Deck Institute
SDI	Steel Door Institute
SEFA	Scientific Equipment and Furniture Association
SGCC	Safety Glazing Certification Council
SHBI	Steel Heating Boiler Institute
SIA	Security Industry Association
SIGMA	Sealed Insulating Glass Manufacturers Association (Now IGMA)
SFIA	Steel Framing Industry Association



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SJI	Steel Joist Institute
SMA	Screen Manufacturers Association
SMACNA	Sheet Metal and Air Conditioning Contractors' National Association
SMPTE	Society of Motion Picture and Television Engineers
SPFA	Spray Polyurethane Foam Alliance (Formerly: SPI/SPFD - The Society of the Plastics Industry, Inc.; Spray Polyurethane Foam Division)
SPIB	Southern Pine Inspection Bureau (The)
SPRI	Single Ply Roofing Industry
SSINA	Specialty Steel Industry of North America
SSMA	the Steel Stud Manufacturers Association
SSPC	SSPC: The Society for Protective Coatings
SSSA	Soil Science Society of America
STI	Steel Tank Institute
SWI	Steel Window Institute
SWRI	Sealant, Waterproofing, & Restoration Institute
TABB	Testing, Adjusting, and Balancing Bureau
TCA	Tile Council of America, Inc.
TIA/EIA	Telecommunications Industry Association/Electronic Industries Alliance
TMS	The Masonry Society
TPI	Truss Plate Institute, Inc.
TPI	Turfgrass Producers International
TRI	Tile Roofing Institute (Formerly: RTI - Roof Tile Institute)
UL	Underwriters Laboratories Inc.
ULC	Underwriters Laboratories of Canada



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UNI	Uni-Bell PVC Pipe Association
USAV	USA Volleyball
USC	United States Code
USGBC	U.S. Green Building Council
USITT	United States Institute for Theatre Technology, Inc.
WASTEC	Waste Equipment Technology Association
WCLIB	West Coast Lumber Inspection Bureau
WCMA	Window Covering Manufacturers Association (Now WCSC)
WCSC	Window Covering Safety Council (Formerly: WCMA - Window Covering Manufacturers Association)
WDMA	Window & Door Manufacturers Association (Formerly: NWWDA - National Wood Window and Door Association)
WNBA	Women's National Basketball Association
WI	Woodwork Institute (Formerly: WIC - Woodwork Institute of California)
WIC	Woodwork Institute of California (Now WI)
WMMPA	Wood Moulding & Millwork Producers Association
WRI	Wire Reinforcement Institute, Inc.
USEPA	United States Environmental Protection Agency
WSRCA	Western States Roofing Contractors Association
WWPA	Western Wood Products Association

PART II – PRODUCTS (Not Used)

PART III – EXECUTION (Not Used)

END OF SECTION 01 42 00



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**SECTION 01 50 00
TEMPORARY FACILITIES, SERVICES AND CONTROLS**

PART 1 – GENERAL

1.1 RELATED DOCUMENTS:

- A. The following documents apply to all required work for the Project: (1) the Contract Drawings, (2) the Specifications, (3) the General Conditions, (4) the Addendum, and (5) the Contract [City of New York Standard Construction Contract].

1.2 SUMMARY:

- A. This section includes the following:
 - 1. Temporary Water System
 - 2. Temporary Sanitary Facilities
 - 3. Temporary Electric Power, Temporary Lighting System, and Site Security Lighting
 - 4. Temporary Heat
 - 5. Dewatering Facilities and Drains
 - 6. Temporary Field Office for Contractor
 - 7. DDC Field Office
 - 8. Material Sheds
 - 9. Temporary Enclosures
 - 10. Temporary Partitions
 - 11. Temporary Fire Protection
 - 12. Work Fence Enclosure
 - 13. Rodent and Insect Control
 - 14. Plant Pest Control Requirements
 - 15. Project Identification Signage
 - 16. Project Construction Sign and Rendering
 - 17. Security Guards/Fire Guards on Site
 - 18. Safety

1.3 RELATED SECTIONS: include without limitation the following:

- A. Section 01 10 00 SUMMARY
- B. Section 01 42 00 REFERENCES
- C. Section 01 54 11 TEMPORARY ELEVATORS AND HOISTS
- D. Section 01 54 23 TEMPORARY SCAFFOLDS AND SWING STAGING
- E. Section 01 77 00 CLOSE OUT PROCEDURES

1.4 DEFINITIONS:

- A. Refer to Article 2 of the Contract for definition of terms, words and expressions used in the General Conditions not otherwise defined herein.



<u>Term</u>	<u>Definition</u>
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.
Permanent Enclosure	As determined by the Commissioner, permanent or temporary roofing that is complete, insulated, and weather tight; exterior walls which are insulated and weather tight; and all openings that are closed with permanent construction or substantial temporary closures.

1.5 SUBMITTALS:

- A. Site Plan: Show temporary facilities, utility hookups, staging areas, and parking areas for construction personnel.
- B. Reports: Submit reports of tests, inspections, meter readings and similar procedures for temporary use.

1.6 PROJECT CONDITIONS:

- A. Temporary Use of Permanent Facilities and Services: The Contractor will be responsible for the operation, maintenance, and protection of each permanent facility and service during its use as a construction facility before Final Acceptance by the City, regardless of previously assigned responsibilities.
- B. The Contractor must install, operate, maintain and protect temporary facilities, services, and controls, including without limitation:
 - 1. Keep temporary services and facilities clean and neat in appearance;
 - 2. Operate temporary services in a safe and efficient manner;
 - 3. Relocate temporary services and facilities as needed as Work progresses;
 - 4. Do not overload temporary services and facilities or permit them to interfere with progress;
 - 5. Provide necessary fire prevention measures; and
 - 6. Do not allow hazardous, dangerous or unsanitary conditions, or public nuisances to develop or persist on-Site.

1.7 NON-REGULAR WORK HOURS (OVERTIME):

- A. The Contractor must provide the temporary services, facilities and controls set forth in this section during non-regular working hours if the Contract Drawings and/or the Specifications indicate that the Work, or specific components thereof, must be performed during non-regular working hours. In such case, all costs for the provision of temporary services, facilities and controls during non-regular working hours will be deemed included in the total Contract price.
- B. The Contractor must provide the temporary services, facilities and controls set forth in this section during non-regular working hours if a change order is issued directing the Contractor to perform the Work, or specific components thereof, during non-regular working hours. In such case, compensation for the provision of temporary services, facilities and controls during non-regular working hours will be provided



through the change order.

1.8 SERVICES BEYOND COMPLETION DATE:

- A. The Contractor must provide the temporary services, facilities and controls set forth in this section until the date on which it completes all required Work at the Site, including all Final Approved Punch List Work, as certified in writing by the Resident Engineer, or earlier if so directed in writing by the Commissioner. The Contractor must provide such temporary services, facilities and controls even if completion of all required Work at the Site occurs after the time fixed for such completion in Schedule A.

PART II – PRODUCTS

2.1 MATERIALS:

- A. The Contractor must provide undamaged materials in serviceable condition and suitable for use intended.
- B. Tarpaulins: Waterproof, fire-resistant UL labeled with flame spread rating of fifteen (15) or less. For temporary enclosures, provide translucent, nylon-reinforced, laminated polyethylene or polyvinyl chloride, fire-retardant tarpaulins.
- C. Water: Potable and in compliance with requirements of the New York City Department of Environmental Protection (DEP).

2.2 EQUIPMENT:

- A. The Contractor must provide undamaged equipment in serviceable condition and suitable for use intended.
- B. Water Hoses: Heavy-duty abrasive-resistant flexible rubber hoses, one hundred (100) feet (thirty (30) m) long with pressure rating greater than the maximum pressure of the water distribution system. Provide adjustable shutoff nozzles at hose discharge.
- C. Electric Power Cords: Grounded extension cords.
 - 1. Provide hard-service cords where exposed to abrasion or traffic.
 - 2. Provide waterproof connectors to connect separate lengths of electric cords where single lengths do not reach areas of construction Activity.
 - 3. Do not exceed safe length-voltage ratio.
- D. Fire Extinguishers: Portable, UL rated; with class and extinguishing agent as required by locations and classes of fire exposures.

PART III –EXECUTION:

3.1 INSTALLATION, GENERAL:

- A. The Contractor must locate facilities where they will serve the Project adequately and result in minimum interference with performance of the Work. Relocate and modify facilities as required by progress of the Work.
- B. The Contractor must provide each facility ready for use when needed to avoid delay. The Contractor must not remove until facilities are no longer needed or are replaced by authorized use of completed permanent facilities as approved by the Resident Engineer.



3.2 TEMPORARY WATER SYSTEM:

REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 3.2 A

- A. **TEMPORARY WATER SYSTEM - NEW FACILITIES:** During construction, the Contractor must furnish a Temporary Water System as set forth below.
1. Immediately after the Commissioner has issued an order to start the Work, the Contractor must file an application with DEP for the schedule of charges for water use during construction. The Contractor will be responsible for payment of water charges.
 2. Immediately after the Commissioner has issued an order to start the Work, the Contractor must file an application with DEP's Bureau of Water Supply and obtain a permit to install the temporary water supply system. The system must be installed and maintained for the use of the Contractor and its subcontractors. A copy of the above-mentioned permit must be filed with the Commissioner. The Contractor must provide temporary water main, risers and waste stacks as directed and install on each floor, outlets with two (2) 3/4" hose valve connections over a barrel installed on a steel pan. The Contractor must provide drains from the pans to the stack and house sewer and hose bibs to drain the water supply risers and mains. During winter months, the Contractor must take the necessary precautions to prevent the temporary water system from freezing. The Contractor must provide repairs to the temporary water supply system for the duration of the Project until said temporary system is dismantled and removed.
 3. Disposition of Temporary Water System: The Contractor will be responsible for dismantling the temporary water system when no longer required for the construction operations, or when replaced by the permanent water system installed for the Project, or as otherwise directed by the Resident Engineer. All repair work resulting from the dismantling of the temporary water system will be the responsibility of the Contractor.

REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 3.2 B

- B. **TEMPORARY WATER SYSTEM – PROJECTS IN EXISTING FACILITIES:**
1. When approved by the Commissioner, use of existing water system will be permitted for temporary water service during construction, as long as the system is cleaned and maintained in a condition acceptable to the Commissioner. At Substantial Completion, the Contractor must restore the existing water system to conditions existing before initial use.
 2. The Contractor will be responsible for all repairs to the existing water system permitted to be used for temporary water service during construction. The Contractor will be responsible to maintain the existing system in a clean condition on a daily basis, acceptable to the Commissioner.
 3. The Contractor will be responsible for payment of water charges as directed by the Commissioner. Billing will be in accordance with the New York City Water Board Water and Wastewater Rate Schedule.
- C. **WASH FACILITIES:** The Contractor must install wash facilities supplied with potable water at convenient locations for personnel involved in handling materials that require wash-up for a healthy and sanitary condition, including without limitation:
1. Dispose of drainage properly;
 2. Supply cleaning compounds appropriate for each condition; and
 3. Include safety showers, eyewash fountains and similar facilities for the convenience, safety and sanitation of personnel.
- D. **DRINKING WATER FACILITIES:** The Contractor must provide drinking water fountains or containerized tap-dispenser bottled-drinking water units, complete with paper cup supplies. Where power is available, provide



electric water coolers to maintain dispensed water temperature at forty-five (45) to fifty-five (55) deg. F (7 to 13 deg. C).

3.3 TEMPORARY SANITARY FACILITIES:

- A. The Contractor must provide toilets, wash facilities, and drinking water fixtures in compliance with regulations and health codes for type, number, location, operation and maintenance of fixtures and facilities. Provide toilet tissue, paper towels, paper cups and similar disposable materials as appropriate for each facility, and provide covered waste containers for used materials.

REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 3.3 B

- B. SELF-CONTAINED TOILET UNITS:

1. The Contractor must provide temporary single-occupant toilet units of the chemical, aerated recirculation, or combustion type for use by all construction personnel. Units must be properly vented and fully enclosed with a glass-fiber-reinforced polyester shell or similar nonabsorbent material. Quantity of toilet units must comply with the latest Occupational Safety and Health Administration (OSHA) regulations.
2. Toilets: The Contractor must install separate, self-contained toilet units for male and female personnel. Shield toilets to ensure privacy.

REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 3.3 C

- C. EXISTING TOILETS:

1. TOILET FACILITIES: When approved by the Commissioner, the Contractor must arrange for the use of existing toilet facilities by all personnel during the execution of the Work. The Contractor will be responsible to clean and maintain facilities in a condition acceptable to the Resident Engineer and, at Substantial Completion, to restore facilities to the condition at the time of initial use.
2. MAINTENANCE - The Contractor must maintain the temporary toilet facilities in a clean and sanitary manner and make all necessary repairs.
3. NUISANCES - The Contractor must not cause any sanitary nuisance to be committed by its employees or the employees of its subcontractors in or about the Work and must enforce all sanitary regulations of the City and State Health Authorities.

3.4 TEMPORARY ELECTRIC POWER, TEMPORARY LIGHTING SYSTEM, AND SITE SECURITY LIGHTING:

- A. SCOPE: This section sets forth the General Conditions and procedures relating to Temporary Electric Power, Temporary Lighting System, and Site Security Lighting during the construction period.
- B. TEMPORARY ELECTRIC POWER: The Contractor must provide and maintain a temporary electric power service and distribution system of sufficient size, capacity and power characteristics required for construction operations for all required Work by the Contractor and its subcontractors, including but not limited to, power for the temporary lighting system, site security lighting, construction equipment, hoists, temporary elevators and all field offices. temporary electric power must be provided as follows:

REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 3.4 B (1)

1. CONNECTION TO UTILITY LINES:

- a. Temporary electric power service for use during construction must be provided as follows: The Contractor must make all necessary arrangements with the public utility company and pay all charges for the Temporary Electric Power system. The Contractor must include in its total Contract price any charges for temporary electric power, including charges that may be made



by the public utility company for extending its electrical facilities, and for making final connections. The Contractor will make payment directly to the public utility company.

- b. APPLICATIONS FOR METER: The Contractor must complete an application to the public utility company and sign all documents necessary for, and pay all charges incidental to, the installation of a watt hour meter or meters for Temporary Electric Power. The Contractor must pay to the public utility company all bills for temporary electric energy used throughout the Work as they become due.
- c. SERVICE AND METERING EQUIPMENT: The Contractor must furnish and install, at a suitable location on the Site, approved service and metering equipment for the Temporary Electric Power System, ready for the installation of the public utility company's metering devices. The temporary service mains to and from the metering location must not be less than one hundred (100) Amperes, 3-phase, 4-wire and must be of sufficient capacity to take care of all demands for all construction operations and must meet all requirements of the New York City Electrical Code.

REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 3.4 B (2)

2. CONNECTION TO EXISTING ELECTRICAL POWER SERVICE:

- a. When approved by the Commissioner, electrical power service for the temporary lighting system and for the operation of small tools and equipment less than ¼ horsepower may be taken from the existing electric distribution system if the existing system is of adequate capacity for the temporary power load. The Contractor must cooperate and coordinate with the facility custodian, so as not to interfere with the normal operation of the facility.
- b. There will be no charge to the Contractor for the electrical energy consumed.
- c. The Contractor must provide, maintain and pay all costs for separate temporary electric power for any temporary power for equipment larger than 1/4 horsepower. When directed by the Commissioner, the Contractor must remove its own temporary power system.

REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 3.4 B (3)

3. ELECTRICAL GENERATOR POWER SERVICE:

- a. When connection to utility lines or existing facility electric service is not available or is not adequate to supply the electric power need for construction operations, the Contractor must provide self-contained generators to provide power beyond that available.
- b. Pay for all energy consumed in the progress of the Work, exclusive of that available from the existing facility or utility company.
- c. Provide for control of noise from the generators.
- d. Comply with the Ultra Low Sulfur Fuel in Non-Road Vehicles requirements as set forth in Article 5.4 of the Contract.

C. USE OF COMPLETED PORTIONS OF THE ELECTRICAL WORK:

- 1. USE OF MAIN DISTRIBUTION PANEL: As soon as the permanent electric service feeders and equipment metering equipment and main distribution panel are installed and ready for operation, the Contractor must have the temporary lighting and power system changed over from the temporary service points to the main distribution panel.
- 2. COST OF CHANGE OVER: The Contractor will be responsible for all costs due to this change over of service and it must also make application to the public utility company for a watt hour meter to be set on the permanent meter equipment.



3. The requirements for temporary electric power service specified herein must be adhered to after change over of service until Final Acceptance of the Project.
4. **NO EXTRA COST:** The operation of the service and switchboard equipment will be under the supervision of the Contractor, but this will in no way be interpreted to mean the acceptance of such part of the installation or relieve the Contractor from its responsibility for the complete Work or any part thereof. There will be no additional charge for supervision by the Contractor.

REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 3.4 D

D. TEMPORARY LIGHTING SYSTEM:

1. The Contractor must provide adequate service for the temporary lighting system, or a minimum of one hundred (100) Amperes, 3-phase, 4-wire service for the temporary lighting system, whichever is greater, and make all necessary arrangements with the public utility company and pay all charges by them for the Temporary Lighting System.
2. The Contractor must furnish and connect to the metered service point a Temporary Lighting System to illuminate the entire area where Work is being performed and points adjacent to the Work, with separately fused circuits for stairways and bridges. Control switches for stairway circuits must be located near entrance on ground floor.
3. **ITEMS:** The Temporary Lighting System provided by the Contractor must consist of wiring, fixtures, left-hand double sockets (one (1) double socket for every 400 square feet, with one (1) lamp and one (1) three-prong outlet), lamps, fuses, locked-type guards, pigtails and any other incidental material. Additional details may be outlined in the detailed Specifications for the electrical Work. Changes may be made, provided the full equivalent of those requirements is maintained.
4. The Temporary Lighting System will be progressively installed as required for the advancement of the Work under the Contract.
5. **RELOCATION:** The cost for the relocation or extension of the original Temporary Lighting System, as required by the Contractor or its subcontractors, that is not required due to the normal advancement of the Work, as determined by the Resident Engineer, will be borne by the Contractor.
6. **PIGTAILS:** The Contractor must furnish pigtails with left-hand sockets with locked-type guards and forty (40) feet of rubber covered cable. The Contractor must furnish and distribute a minimum of three (3) complete pigtails to each subcontractor. See the detailed Electrical Specifications for possible additional pigtails required.
7. **LAMPS:** The Contractor must furnish and install one (1) complete set of lamps, including those for the trailers. Broken and burned out lamps in the temporary lighting system, DDC field office, and construction trailers must be replaced by the Contractor. All lamps must be compact fluorescent.
8. **CIRCUIT PROTECTION:** The Contractor must furnish and install Ground Fault Interruption (GFI) protection for the temporary lighting and site security lighting systems.
9. **MAINTENANCE OF TEMPORARY LIGHTING SYSTEM:**
 - a. The Contractor must maintain the Temporary Lighting System in good working order during the scheduled hours established.
 - b. The Contractor must include in its total Contract price all costs in connection with the Temporary Lighting System, including all costs for installation, maintenance and electric power.
10. **REMOVAL OF TEMPORARY LIGHTING SYSTEM:** The temporary lighting system must be removed by the Contractor when authorized by the Commissioner.



11. **HAND TOOLS:** The temporary lighting system must not be used for power purposes, except that light hand tools not larger than 1/4 horsepower may be operated from such system by the Contractor and its subcontractors.

REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 3.4 E

E. SITE SECURITY LIGHTING (NEW CONSTRUCTION ONLY):

1. The Contractor must furnish, install and maintain a system of site security lighting, as herein specified, to illuminate the construction Site of the Project, with the system connected to and energized from the Temporary Lighting System. All costs in connection with site security lighting will be deemed included in the total Contract price.
2. It is essential that the site security lighting system be completely installed and operating at the earliest possible date. The Contractor must direct its subcontractors to cooperate, coordinate and exert every effort to accomplish an early complete installation of the site security lighting system. If, after the system is installed and in operation, a part of the system interferes with the Work of any trade, the Contractor will be completely responsible for the expense of removing, relocating, and replacing all equipment necessary to reinstate the system to proper operating conditions.
3. The system must consist of flood lighting by pole-mounted guarded sealed-beam units. Floodlight units must be mounted sixteen (16) feet above grade. Floodlights must be spaced around the perimeter of the Site to produce an illumination level of no less than one (1) foot candle around the perimeter of the Site, as well as in any potentially hazardous area or any other area within the Site that might be deemed by the Resident Engineer to require security illumination. The system must be installed in a manner acceptable to the Resident Engineer. The first lighting unit in each circuit must be provided with a photoelectric cell for automatic control. The photoelectric cell must be installed as per manufacturer's recommendations.
4. All necessary poles must be furnished and installed by the Contractor.
5. The site security lighting must be kept illuminated at all times during the hours of darkness. The Contractor must, at its own expense, keep the system in operation and must furnish and install all material necessary to replace all damaged or burned out parts.
6. The Contractor must be on telephone call alert for maintaining the system during the operating period stated above.
7. All materials and equipment furnished under this section will remain the property of the Contractor and must be removed and disposed of by the Contractor when authorized in writing by the Resident Engineer.

REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 3.5

3.5 TEMPORARY HEAT:

A. GENERAL:

1. **Definition:** The provision of Temporary Heat means the provision of heat in order to permit construction to be performed in accordance with the Progress Schedule during all seasons of the year and to protect the Work from the harmful effects of low temperature. In the event the building, or any portion thereof, is occupied during construction, the provision of Temporary Heat will include the provision of heat to permit normal operations in such occupied areas.
 - a. The provision of Temporary Heat must be in accordance with the temperature requirements set forth in sub-section 3.5 C herein.
 - b. The provision of Temporary Heat must include the provision of: 1) all fuel necessary and required, 2) all equipment necessary and required, and 3) all operating labor necessary and required.



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required. Operating labor must mean that minimum force required for the safe day-to-day operation of the system for the provision of Temporary Heat and must include, without limitation, heating maintenance labor and/or fire watch as required by New York City Fire Department (FDNY) regulations. Operating labor may be required seven (7) days per week and during non-regular working hours, for the period of time required by seasonal weather conditions.

- c. In the event the building, or any portion thereof, is occupied and the Project involves the replacement, modification, and/or shut down of the permanent heating system, or any key component thereof, and such system is a combined system which furnishes domestic hot water for the building occupants, the provision of Temporary Heat must include the provision of domestic hot water at the same temperature as the system which is being replaced. Domestic hot water must be provided in accordance with the phasing requirements set forth in the Contract Documents.
2. Responsibility: The Contractor's responsibility for the provision of Temporary Heat, including all expenses in connection therewith, is as set forth below:
 - a. Projects Involving enclosure of the building:
 - 1) Prior to Enclosure: Until the Commissioner determines that the building has been enclosed, as set forth in sub-section 3.5 B, the Contractor is responsible for the provision of Temporary Heat.
 - 2) Post Enclosure: Once the Commissioner determines that the building, or any portion thereof, has been enclosed, as set forth in sub-section 3.5 B, the Contractor is responsible for the provision of Temporary Heat by one or more of the following means: 1) by an existing heating system (if any), 2) by a permanent heating system which is being installed as part of the Project, or 3) by a temporary heating system(s).
 - 3) The Contractor must, within two (2) weeks of the kick-off meeting, submit to DDC for review its proposed plan to provide Temporary Heat. Such plan is subject to approval by the Resident Engineer. The Contractor must provide Temporary Heat in accordance with the approved plan until written acceptance by the Commissioner of the Work of all subcontractors, including punch list Work, unless directed otherwise in writing by the Commissioner. The responsibility of the Contractor provided for herein is subject to the exception set forth in sub-section 3.5 A.2 (b) herein.
 - b. Projects not involving enclosure of the building:
 - 1) If the Project involves the installation of a new permanent heating system if one did not exist previously, or the replacement, modification, and/or shut down of the existing permanent heating system, or any key component thereof, the Contractor will be responsible for the provision of Temporary Heat, except as otherwise provided in sub-section 3.5 H.3(b).2 herein.
 - 2) If the Project does not involve the installation of a new permanent heating system if one did not exist previously, or the replacement, modification, and/or shut down of the existing permanent heating system, or any key component thereof, there is no Contractor responsibility of the provision of Temporary Heat, unless otherwise specified in the Contract Documents. However, if the Commissioner, pursuant to sub-section 3.5 H.3 (b).1 herein, determines that the provision of Temporary Heat is necessary due to special and/or unforeseen circumstances, the Contractor will be responsible for the provision of Temporary Heat and must be paid for the same in accordance with sub-section 3.5 H.3 (b).1 herein.



B. ENCLOSURE OF STRUCTURES:

1. Notification: The Contractor must notify all its subcontractors and the Resident Engineer at least thirty (30) Days prior to the anticipated date that the building(s) will be enclosed.
2. Commissioner Determination: The Commissioner will determine whether the building, or any portion thereof, has been enclosed. As indicated in sub-section 3.5 A.2 above, once the building has been enclosed, the Contractor will be responsible for the provision of Temporary Heat. The Commissioner's determination with respect to building enclosure will be based upon all relevant facts and circumstances, including without limitation, 1) whether the building meets the criteria set forth in Paragraph 3 below, and 2) whether the openings in the building, such as doorways and windows, have been sufficiently covered so as to provide reasonable heat retention and protection from the elements.
3. Criteria for enclosure:
 - a. Roof Area:
 - 1) A building will be considered to be roofed when the area to be roofed is covered by a permanent structure and all openings through the permanent structure are covered and protected by temporary covers as described in Paragraph (c) below.
 - 2) Intermediate floor structures of multi-floor buildings will be considered to be roofed subject to the same requirements of the building roof.
 - 3) The final roofing system need not be in place for the building or structure to be determined to be enclosed, provided, however, all openings through the permanent structure covering the roof must be covered and protected by temporary covers, as described in Paragraph (c) below.
 - b. Walls: For the walls to be determined to be enclosed, permanent exterior wall elements or facing material must be in place and all openings must be covered and protected by temporary covers, as described in Paragraph (c) below.
 - c. Temporary Covers: In order to be acceptable, temporary covers must be securely fixed to prevent the entrance of rain, snow and direct wind. The minimum material requirements for temporary covers are as follows: 1) minimum ten (10) millimeter plastic, 2) minimum twelve (12) ounce waterproof canvas tarpaulins, or 3) a minimum three-eighths (3/8) inch thickness exterior grade plywood.
 - d. Temporary covers for openings will be the responsibility of the Contractor and such Work will be deemed included in the Contract price.

C. TEMPERATURE REQUIREMENTS:

1. Unoccupied Buildings: The temperature requirement for the provision of Temporary Heat in unoccupied buildings will be the GREATER of the following: 1) fifty (50) degrees Fahrenheit, or 2) the temperature requirement for the particular type of Work set forth in the Contract Documents.
2. Occupied Buildings: The temperature requirement for the provision of Temporary Heat in occupied buildings, or portions thereof, will be the GREATER of the following: 1) sixty-eight (68) degrees Fahrenheit, or 2) the temperature requirement for the particular type of Work set forth in the Contract Documents.

D. DURATION:

1. The Contractor must be required to provide Temporary Heat until Final Acceptance, including all punch list work, as certified in writing by the Resident Engineer, or earlier if so directed in writing by the Commissioner. The Contractor must be responsible for the provision of Temporary Heat for the time specified herein, regardless of any delays in completion of the Project, including delays that



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result in the commencement of the provision of Temporary Heat during a season that is later than that which may have been originally anticipated. The Contractor must include in its total Contract price all expenses in connection with the provision of Temporary Heat in accordance with the requirements specified herein.

2. The total Contract duration is set forth in Schedule A of the Addendum. The table set forth below indicates the number of full heating seasons that are deemed included in various Contract durations, which are specified in CCDs. At a minimum, a full heating season must extend from October 15th to April 15th.

<u>Contract Duration</u>	<u>Full Heating Seasons Required</u>
up to 360 CCD	1 full heating season
360 to 720 CCD	2 full heating seasons
more than 720 CCD	3 full heating seasons

E. METHOD OF TEMPORARY HEAT:

1. The method of temporary heat must be in conformance with the New York City Fire Code and with all applicable laws, rules, and regulations. Prior to implementation, such method must be subject to the written approval of the Commissioner.
2. The method of temporary heat must:
 - a. Not cause the deposition of dirt or smudges upon any finished Work or cause any defacement or discoloration to the finished Work.
 - b. Not be injurious or harmful to people or materials.
 - c. Portable fueled heating devices or equipment will NOT be allowed for use as temporary heat other than construction-related curing or drying in conformance with the NYC Fire Code.
3. No open fires will be permitted.

F. TEMPORARY HEATING SYSTEM:

1. The temporary system for the provision of Temporary Heat provided by the Contractor following enclosure of the building must be complete, including, subject to provisions of paragraph E above, boilers pumps, radiators, space heaters, water and heating piping, insulation and controls. The temporary system for the provision of Temporary Heat must be capable of maintaining the minimum temperature requirements set forth in Paragraph C above.

G. COORDINATION:

1. The Contractor, in the provision of Temporary Heat, must coordinate its operations in order to insure sufficient and timely performance of all required Work, including Work performed by trade subcontractors. The Contractor must supply and pay for all water required and used in the building for the operation of the heating system(s) for the purpose of Temporary Heat. The Contractor must include all expenses in connection with the supply of water for Temporary Heat in its total Contract price. During the period in which Temporary Heat in an enclosed building is being furnished and maintained, the Contractor must provide proper ventilating and drying, open and close the windows and other openings when necessary for the proper execution of the Work and when directed by DDC. The Contractor must maintain all permanent or temporary enclosures at its own expense.

H. USE OF PERMANENT HEATING SYSTEMS:

1. Use of Permanent Heating System for Temporary Heat after Building Enclosure:



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- a. The Contractor must provide all labor and materials to promptly furnish and set all required equipment, convectors and/or radiators, piping, valves, fitting, etc., in ample time for their use for the provision of Temporary Heat after enclosure of the building.
 - b. New portions of the permanent heating system that are used for furnishing Temporary Heat must be left in near-perfect condition when delivered to the City for operation. Any repairs required, other than for ordinary wear and tear on the equipment, must be made by the Contractor at his/her expense. The starting date for the warranty or guarantee period for such equipment must be the date of Substantial Completion acceptance.
 - c. In the event that the Contractor does not advance the installation of the permanent heating system in sufficient time to permit its use for Temporary Heat as determined by DDC, the Contractor must furnish and install a separate system for the provision of Temporary Heat as required to maintain the minimum temperature requirements set forth in Paragraph C above.
2. All equipment for the system for the provision of Temporary Heat must be placed so as to comply with the requirements specified hereinbefore, and must be connected, disconnected and suitably supported and located so as to permit construction Work, including finish Work such as wall plastering and painting, to proceed. The installation of the system for the provision of Temporary Heat by the Contractor, including the placing of ancillary system equipment, must be coordinated with the operations of all trade subcontractors so as to insure sufficient and timely performance of the Work. Once the permanent heating system is operating properly, the Contractor must remove all portions of the system for Temporary Heat not part of the permanent heating system.
3. Temporary Heat Allowance for Special Conditions or and/or Unforeseen Circumstances:
 - a. The City may establish an Allowance in the Contract for payment of costs and expenses in connection with the provision of Temporary Heat as set forth herein. If established, the City will include an amount for such Allowance on the Bid Form, and the Contractor must include such Allowance amount in its total Contract price. The Contractor will only be entitled to payment from this Allowance under the conditions and in accordance with the requirements set forth below. In the event this Allowance or any portion thereof remains unexpended at the conclusion of the Contract, such Allowance must remain the sole property of the City. Should the amount of the Allowance be insufficient to provide payment for the expenses specified below, the City will increase the amount of the Allowance.
 - b. The Allowance set forth herein may be utilized only under the conditions set forth below.
 1. In the event the Project does not involve the installation of a new permanent heating system if one did not exist previously, or the replacement, modification, and/or shut down of the existing permanent heating system, or any key component thereof, and the Commissioner determines that the provision of Temporary Heat is necessary due to special and/or unforeseen circumstances, the Contractor must be responsible for the provision of Temporary Heat, as directed by the Commissioner. The City must pay such Contractor for all costs for labor, material, and equipment necessary and required for the same. Payment must be made in accordance with Article 26 of the Contract, except that the cost of fuel must be as set forth in Paragraph (c) below.
 2. In the event the Commissioner determines that there is a need for maintenance of the permanent heating system by the Contractor after Final Acceptance by the Commissioner of the Work, and that the need for such maintenance is not the fault of the Contractor, the Contractor must provide the required maintenance of the permanent heating system for the period of time directed by the Commissioner. The City will pay the Contractor for the cost of direct labor and fuel necessary and required in connection with such maintenance, excluding the cost of any foremen or other supervision. Payment must be made in accordance with Article 26 of the Contract, except that the cost of fuel must be as set forth in Paragraph (c) below.



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- c. Payment for Fuel Costs: Payment from the Allowance set forth herein for the cost of fuel necessary and required to operate the system for the provision of Temporary Heat, or to maintain the permanent heating system under the conditions set forth in Paragraph b above, must be limited to the direct cost of such fuel. The Contractor will not be entitled to any overhead and/or profit for such fuel costs. In order to receive payment for such fuel costs, the Contractor must present original invoices for the same. DDC reserves the right to furnish the required fuel.

I. RELATED ELECTRICAL WORK:

1. The Contractor must be responsible for providing the items set forth below and must include all expenses in connection with such items in its total Contract price. The Contractor must provide such items promptly when required and must in all respects coordinate its Work with the Work performed by trade subcontractors in order to facilitate the provision of Temporary Heat.
 - a. The Contractor must provide all labor, materials, equipment and power necessary and required to furnish and maintain any temporary or permanent electrical connections to all equipment specified to be connected as part of the work of the Contractor's Contract.
 - b. The Contractor must supply and pay for all power necessary and required for the operation of the system for the provision of Temporary Heat and/or the permanent heating system used for Temporary Heat. Such power must be provided by the Contractor for the duration the Contractor is required to provide Temporary Heat, as set forth in sub-section 3.5 D herein.
2. In providing the items set forth in Paragraph 1 above, the Contractor is advised that labor may be required seven (7) days a week and/or during non-regular working hours for the period of time required by seasonal weather conditions.

J. RELATED PLUMBING WORK:

1. The Contractor must be responsible for providing all labor, materials, and equipment necessary and required to furnish and maintain all temporary or permanent connections to all equipment or plumbing outlets specified to be provided as part of the Work of this Contract. The Contractor must include all expenses in connection with such items of Work in its total Contract price. The Contractor must provide such items of Work promptly when required and must in all respects coordinate its Work with the Work performed by trade subcontractors in order to facilitate the provision of Temporary Heat.
2. In the event portions of the permanent plumbing equipment furnished by the Contractor as part of the Work of this Contract are used for the provision of Temporary Heat either during construction or prior to acceptance by the City of the complete plumbing system, the Contractor will be responsible to provide such plumbing equipment to the City in near-perfect condition and must make any repairs required, other than for ordinary wear and tear on the equipment, at the Contractor's expense. The starting date for warranty and/or guarantee period for such plumbing equipment must be the date of Substantial Completion by the City.
3. For Projects requiring the installation of new and/or modified gas service, as well as associated meter installations, the Contractor must promptly perform all required filings and coordination with the utility companies in order to expedite the installation, testing, and approval of the gas service and associated meter(s).

3.6 STORM WATER CONTROL, DEWATERING FACILITIES AND DRAINS:

A. PUMPING:

1. Comply with requirements of authorities having jurisdiction. Maintain Project Site, excavations, and construction free of water. Provide barriers in and around excavations and subgrade construction to prevent flooding by runoff of storm water from heavy rainfall.



2. Contractor must furnish and install all necessary automatically operated pumps of adequate capacity with all required piping to run-off agencies, so as to maintain the excavation, cellar floor, pits and exterior depressions and excavations free from accumulated water during the entire period of construction and up to the date of Final Acceptance of Work of the Contract.
3. All pumps must be maintained at all times in proper working order.
4. Dispose of rainwater in a lawful manner that will not result in flooding the Project or adjoining properties nor endanger permanent Work or temporary facilities.
5. Remove snow and ice as required to minimize accumulations.

3.7 TEMPORARY FIELD OFFICE FOR CONTRACTOR:

- A. The Contractor must establish a temporary field office for its own use at the Site during the period of construction, at which readily available copies of all Contract Documents must be kept.
- B. The field office must be located where it will not interfere with the progress of any part of the Work or with visibility of traffic control devices.
- C. CONTRACTOR'S REPRESENTATIVE: There must be a responsible and competent representative of the Contractor in charge of the office who is duly authorized to receive orders and directions and to put them into effect.
- D. Arrangements must be made by the Contractor whereby its representative may be readily available by telephone.
- E. All temporary structures must be of substantial construction and neat appearance, and must be painted a uniform gray unless otherwise directed by the Commissioner.
- F. CONTRACTOR'S SIGN: The Contractor must post and keep posted on the outside of its field office, office, exterior fence, or wall at Site of Work, a legible sign giving the full name of the company, address of the company and telephone number(s) of responsible representative(s) of the firm who can be reached in the event of an emergency at any time.
- G. ADVERTISING PRIVILEGES: The City reserves the right to all advertising privileges. The Contractor must not cause any signs of any kind to be displayed at the Site unless specifically required herein or authorized by the Commissioner.

3.8 DDC FIELD OFFICE:

REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 3.8 A

- A. OFFICE SPACE IN EXISTING BUILDING:
 1. The Resident Engineer will arrange for office space for sole use in the building where Work is in progress. The Contractor must provide and install a lockset for the door to secure the equipment in the room. The Contractor must provide two (2) keys to the Resident Engineer. After completion of the Project the Contractor must replace the original lockset on the door and ensure its proper operation.
 2. In addition to equipment specified in sub-section 3.8 D, the Contractor must provide, for exclusive use of the DDC Field Office, the following:
 - a. Two (2) single pedestal desks, 42" x 32"; two (2) swivel chairs with arms and three (3) side chairs without arms to match desk. Two metal (2) lockers, single units, 15" x 18" x 78" overall including 6" legs. Lockers to have flat key locks with two (2) keys each, General Steel products or approved equal. Two (2) full ball bearing suspension four (4) drawer vertical legal filing cabinets with locks, approximately 52"H x 28 ½"D x 18"W.



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- b. One (1) 9000 B.T.U air conditioner or as directed by Commissioner. Wiring for the air conditioner must be minimum No. 12 AWG fed from individual circuits in the fuse box.
 - c. One (1) folding conference table, 96" x 30" and ten (10) folding chairs.
 - d. Two (2) metal wastebaskets.
 - e. One (1) fire extinguisher, one (1) quart vaporizing liquid type, brass, wall mounted by Pyrene No. C21 or approved equal.
 - f. One (1) Crystal Springs water cooler with bottled water, Model No. LP14058 or approved equal to be furnished for the duration of the Project as required.
3. The Contractor must provide one (1) telephone, where directed and must pay all costs for telephone service for calls within the New York City limits for the duration of the Project.
 4. All furniture and equipment, except computer equipment specified in sub-section 3.8 D.3, must remain the property of the Contractor.
 5. Computer workstation quantities must be provided as specified in sub-section 3.8 B 3-a for DDC Managed Projects, or sub-section 3.8 B 3-b for CM Managed Projects.

REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 3.8 B

B. DDC FIELD OFFICE TRAILER:

1. **GENERAL:** The Contractor must, for the time frame specified herein, provide and maintain at its own cost and expense a DDC Construction Field Office and all related items as specified herein [hereinafter collectively referred to as the "DDC Field Office"] for the exclusive use of the Resident Engineer. The DDC Field Office must be located at the Project Site and must be solely dedicated to the Project. Provision of the DDC Field Office must commence within thirty (30) Days from Notice to Proceed (NTP) and must continue through forty-five (45) Days after Substantial Completion of the required construction at the Project Site. The Contractor must remove the DDC Field Office forty-five (45) Days after Substantial Completion of the required construction, or as otherwise directed in writing by the Commissioner.
2. **TRAILER:** The Contractor must provide at its own cost and expense a mobile office trailer for use as the DDC Field Office. The Contractor must install and connect all utility services to the trailer within thirty (30) Days from NTP. The trailer must have equipment in compliance with the minimum requirements hereinafter specified. Any permits and fees required for the installation and use of said trailer must be borne by the Contractor. The trailer including furniture and equipment therein, except computer equipment specified in sub-section 3.8D.3 herein, must remain the property of the Contractor.
3. Trailer must be an office-type trailer of the size specified herein, with exterior stairs at entrance. Trailer construction must be minimum 2 x 4 wall construction fully insulated with paneled interior walls, pre-finished gypsum board ceilings and vinyl tile floors.



**REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 3.8.B.3a or
SUB-SECTION 3.8.B.3b.**

- a. DDC Managed Project Trailer: DDC Field Office Trailer Size, Layout and Computer Workstation:
 - 1) Overall length: 32 Feet
Overall width: 10 Feet
 - 2) Interior Layout:
Provide one (1) general office/conference room area and one (1) private office at one end of the trailer. Provide equipment and amenities as specified in sub-section 3.8.B herein.
 - 3) Computer Workstation: Provide one (1) complete computer workstation, as specified in sub-section 3.8.D herein, in the private office area as directed by the Resident Engineer.
- b. CM Managed Project Trailer: DDC Field Office Trailer Size, Layout and Computer Workstation:
 - 1) Overall length: 50 Feet
Overall width: 10 Feet
 - 2) Interior Layout:
Provide one (1) large general office/conference room in the center of the trailer and two (2) private offices, one (1) each at either end of the trailer. Provide equipment and amenities as specified in sub-section 3.8.B herein.
 - 3) Computer Workstation:
Provide three (3) complete computer workstations as specified in sub-section 3.8.D herein. Provide one (1) each complete computer workstation in each private office and one (1) complete computer workstation at the secretarial position as directed by the Resident Engineer.
4. The exterior of the trailer must be lettered with black block lettering of the following heights with white borders:

CITY OF NEW YORK	2-1/2"
DEPARTMENT OF DESIGN AND CONSTRUCTION	3-3/4"
DIVISION OF PUBLIC BUILDINGS	3-1/2"
DDC FIELD OFFICE	2-1/2"

NOTE: In lieu of painting letters on the trailer, the Contractor may substitute a sign constructed of a good quality weatherproof material with the same type and size of lettering above.
5. All windows and doors must have aluminum insect screens. Provide wire mesh protective guards at all windows.
6. The interior must be divided by partitions into general and private office areas as specified herein. Provide a washroom located adjacent to the private office and a built-in wardrobe closet opposite the washroom. Provide a built-in desk in the private office(s) with fixed overhead shelf and clearance below for two (2) file cabinets.
7. Provide a built-in drafting or reference table, located in the general office/conference room, at least sixty (60) inches long by thirty-six (36) inches wide with cabinet below and wall type plan rack at least forty-two (42) inches wide.
8. The washroom must be equipped with a flush toilet, wash basin with two (2) faucets, medicine cabinet, complete with supplies and a toilet roll tissue holder. Plumbing and fixtures must be



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approved house type, with each appliance trapped and vented and a single discharge connection. Five (5) gallon capacity automatic electric heater for domestic hot water must be furnished.

9. HVAC: The trailer must be equipped with central heating and cooling adequate to maintain a temperature of seventy-two (72) degrees during the heating season and seventy-five (75) degrees during the cooling season when the outside temperature is five (5) degrees F. winter and eighty-nine (89) degrees F. summer.
10. Lighting must be provided via ceiling mounted fluorescent lighting fixtures to a minimum level of fifty (50) foot candles in the open and private office(s) along with sufficient lighting in the washroom. Broken and burned out lamps must be replaced by the Contractor. A minimum of four (4) duplex convenience outlets must be provided in the open office and two (2) each in the private office(s). These outlets must be in addition to special outlet requirements for computer stations, copiers, HVAC unit, etc.
11. Electrical service switch and panel must be adequately sized for the entire trailer load. Provide dedicated circuits for HVAC units, hot water heater, copiers and other equipment as required. All wiring and installation must conform to the New York City Electrical Code.
12. The following movable equipment must be furnished:
 - a. Two (2) single pedestal desks, 42" x 32"; two (2) swivel chairs with arms and three (3) side chairs without arms to match desk. Two (2) full ball bearing suspension four (4) drawer vertical legal filing cabinets with locks and two (2) full ball bearing two (2) drawer vertical legal filing cabinets in each private office located below built-in desk.
 - b. One (1) folding conference table, 96" x 30" and ten (10) folding chairs.
 - c. Three (3) metal wastebaskets.
 - d. One (1) fire extinguisher one (1) quart vaporizing liquid type, brass, wall mounted by Pyrene No. C21 or approved equal.
 - e. One (1) Crystal Springs water cooler with bottled water, Model No. LP14058 or approved equal to be furnished for the duration of the Contract as required.
13. TRAILER TEMPORARY SERVICE: Plumbing and electrical Work required for the trailer will be furnished and maintained as below.
 - a. PLUMBING WORK: The Contractor must provide temporary water and drainage service connections to the DDC Field Office trailer for a complete installation. Provide all necessary soil, waste, vent and drainage piping.

Contractor to frost-proof all water pipes to prevent freezing.

 - 1) REPAIRS, MAINTENANCE: The Contractor must provide repairs for the duration of the Project until the trailer is removed from the Site.
 - 2) DISPOSITION OF PLUMBING WORK: At the expiration of the time limit set forth in subsection 3.8 B 1 herein, the temporary water and drainage connections and piping to the DDC Field Office trailer must be removed by the Contractor and must be plugged at the mains. All piping must become the property of the Contractor for plumbing Work and must be removed from the Site, all as directed. All repair Work due to these removals must be the responsibility of the Contractor.
 - b. ELECTRICAL WORK:
 - 1) The Contractor must furnish, install and maintain a temporary electric feeder to the DDC Field Office trailer immediately after it is placed at the job Site.
 - 2) The temporary electrical feeder and service switch/fuse must be adequately sized



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based on the trailer load and installed per the New York City Electrical Code and complying with utility requirements.

- 3) Make all arrangements and pay all costs to provide electric service.
- 4) The Contractor must pay all costs for current consumed and for maintenance of the system in operating condition, including the furnishing of the necessary bulb replacements lamps, etc., for the duration of the Project and for a period of forty-five (45) Days after the date of Substantial Completion.
- 5) Disposition of Electric Work: At the expiration of the time limit set forth, the temporary feeder, safety switch, etc., must be removed and disposed of as directed.
- 6) All repair Work due to these removals must be the responsibility of the Contractor.

c. **MAINTENANCE**

- 1) The Contractor must provide and pay all costs for regular weekly janitor service and furnish toilet paper, sanitary seat covers, cloth towels and soap and maintain the DDC Field Office in first-class condition, including all repairs, until the trailer is removed from the Site.
- 2) Supplies: The Contractor must be responsible for providing (1) all office supplies, including without limitation, pens, pencils, stationery, filtered drinking water and sanitary supplies, and (2) all supplies in connection with required computers and printers, including without limitation, an adequate supply of blank CD's/DVD's, storage boxes for blank CDs/DVDs, and paper and toner cartridges for the printer.
- 3) Risk of Loss: The entire risk of loss with respect to the DDC Field Office and equipment must remain solely and completely with the Contractor. The Contractor must be responsible for the cost of any insurance coverage determined by the Contractor to be necessary for the field office.
- 4) At forty-five (45) Days after the date of Substantial Completion, or sooner as directed by the Commissioner, the Contractor must have all services disconnected and capped to the satisfaction of the Commissioner. All repair Work due to these removals must be the responsibility of the Contractor.

d. **TELEPHONE SERVICE:** The Contractor must provide and pay all costs for the following telephone services for the DDC Field Office trailer:

- 1) Separate telephone lines for one (1) desk phone in each private office.
- 2) One (1) wall phone (with six (6) foot extension cord) at plan table.
- 3) Separate telephone lines for the fax machine and internet access in each private office. Telephone service must include voice mail. All electronic voicemail messages must be automatically forwarded as email attachments, to allow for the voicemails to be played remotely.
- 4) A remote bell located on outside of trailer
- 5) The telephone service must continue until the trailer is removed from the Site.

e. **PERMITS:** The Contractor must make the necessary arrangements and obtain all permits and pay all fees required for this Work.

- C. **RENTED SPACE:** The Contractor has the option of providing, at its cost and expense, rented office or store space in lieu of trailer. Said space must be in the immediate area of the Project and have adequate plumbing, heating and electrical facilities. Space chosen by the Contractor for the DDC Field Office must be approved by the Commissioner before the area is rented. All insurance, maintenance and equipment,



including computer workstations specified in sub-section 3.8 D in quantities required as specified in sub-section 3.8 B 3 for the DDC Field Office trailer, must also apply to rented spaces.

REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 3.8 D

D. ADDITIONAL EQUIPMENT FOR THE DDC FIELD OFFICE:

1. Photocopying Machine: Stand-alone, heavy duty, electric, dry-process color photocopying type with color scan and send capability via email, a minimum production rate of seventy (70) pages per minute and an adequate supply of copy paper, toner, etc. The machine must 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 must 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. must be replenished and the machines must be maintained for the duration of the Contract by the Contractor as required by the Resident Engineer. Make and model can be Minolta, Canon, IBM, Epson, or an approved equivalent, and must be networked to the office computers for printing capability. Copier must remain at job Site until the DDC Field office trailer is removed from the Site.
2. The Contractor must furnish a fax machine and a telephone answering machine at commencement of the Project for the exclusive use of the DDC Field Office. All materials must be new, sealed in manufacturer's original packaging and must have manufacturers' warranties. All items must remain the property of the City of New York at the completion of the Project.
3. COMPUTER WORKSTATION: The Contractor must provide one (1) complete computer workstation, in quantities specified in sub-section 3.8.B.3, as specified herein:
 - a. Hardware/Software Specification:
 - 1) Computer Equipment: Computers must be provided for all Contracts that have a total Consecutive Calendar Days (CCD) for construction duration, as set forth in Schedule "A", of 180 CCD's or greater. Contracts of lesser duration must not require computers.
 - 2) Computers furnished by the Contractor for use by City Personnel for the duration of the Contract must be in accordance with the Specific Requirements contained herein, must remain the property of the City of New York at the completion of the Project, and must meet the following minimum requirements:
 - 3) Personal Computer(s) – Each Workstation Configuration.
 - a) Make and Model: Dell; HP; Gateway; Acer; or, an approved equivalent. (Note: an approved equivalent requires written approval of the DDC Assistant Commissioner of Information Technology Services (ITS)).
 - b) Processor: i5-2400 (6MB Cache, 3.1GHz) or faster computer - Single Processor.
 - c) System RAM: Minimum of 4GB (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) 16xDVD+/-RW: DVD Burner (with double layer write capability) 16x Speed or faster.



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- 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 must 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 Requirement: Microsoft Windows 7 Professional SP1, 32 bit; Microsoft Office Professional 2010 or 2013; Microsoft Project 2010; Adobe Acrobat reader; Anti-Virus software package with 2 year updates subscription; and, either Auto Cad LT or Microsoft Visio Standard Edition, as directed by the Resident Engineer.
- 4) DDC Field Office Specs: DDC Field Offices requiring computers must be provided with the following:
- a) One (1) broad-band internet service account. Wideband Internet connectivity at a minimum throughput of fifteen (15) Mbps download and five (5) Mbps upload is required at each field office location with 1-5 staffers. For larger field offices see table below for minimum required upload speeds. Telephone service should be bundled together with Internet connectivity. Because of throughput requirements Verizon FIOS is the preferred connectivity provider where available.

Office Personnel #	Upload Speeds (<i>Minimum</i>)
1 – 5	5 Mbps
6 – 10	10 Mbps
11 – 15	15 Mbps
16 – 20 ...	20 Mbps

This account will be active for the life of the Project. The e-mail name for the account must be the DDC Field Office/Project ID (preferably Gmail or Outlook e.g. ABC1234@gmail.com).

- b) One (1) 600 DPI HP Color Laser Jet Printer (twelve (12) pages per minute or faster) with one (1) Extra Paper (Legal Size) (Not required if photocopying machine prints in color).
 - c) All necessary cabling for equipment specified herein
 - d) Storage Boxes for Blank CD's
 - e) Printer Table
 - f) UPS/Surge Suppressor combo
 - g) Ten (10) USB Thumb (or Flash) Drives – sixteen (16) GB each
- 5) All computers required for use in the DDC Field Office must be delivered, installed, and



setup in the Field Office by the Contractor.

- 6) All Computer Hardware must 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 must be provided by the Contractor and must be replenished by the Contractor as required by the Resident 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 ITS at 718-391-1761.

E. HEAD PROTECTION (HARD HATS):

1. The Contractor must provide a minimum of ten (10) standard protective helmets for the exclusive use of DDC personnel and their visitors. Helmets must be turned over to the Resident Engineer and kept in the DDC Field Office.
2. Upon completion of the Project, the helmets must become the property of the Contractor.

3.9 MATERIAL SHEDS:

- A. Material sheds used by the Contractor for the storage of its materials must be kept at locations which will not interfere at any time with the progress of any part of the Work or with visibility of traffic control devices.
- B. The Contractor must store combustible materials apart from the facility.

3.10 TEMPORARY ENCLOSURES:

- A. The Contractor must provide temporary enclosures for protection of construction, in progress and completed, from exposure, foul weather, other construction operations, and similar activities. Provide temporary weather tight enclosure for building exterior.
- B. Where heating or cooling is needed and Permanent Enclosure is not complete, the Contractor must insulate temporary enclosures.

3.11 TEMPORARY PARTITIONS:

- A. The Contractor must provide floor-to-ceiling dustproof partitions to limit dust and dirt migration and to separate occupied tenant areas from fumes and noise, including, but without limitation:
 1. Construct dustproof partitions with gypsum wallboard with joints taped on occupied side, and fire-retardant plywood on construction operations side.
 2. Construct dustproof partitions with 2 layers of 3-mil (0.07-mm) polyethylene sheet on each side. Cover floor with two (2) layers of 3-mil (0.07-mm) polyethylene sheet, extending sheets eighteen (18) inches (460 mm) up the sidewalls. Overlap and tape full length of joints. Cover floor with fire-retardant plywood.



- a. Construct vestibule and airlock at each entrance through temporary partition with not less than forty-eight (48) inches (1219 mm) between doors. Maintain water-dampened foot mats in vestibule.
3. Insulate partitions to provide noise protection to occupied areas.
4. Seal joints and perimeter. Equip partitions with dustproof doors and security locks.
5. Protect air-handling equipment.
6. Weather strip openings.
7. Provide walk-off mats at each entrance through temporary partition.

3.12 TEMPORARY FIRE PROTECTION:

- A. The Contractor must install and maintain temporary fire-protection facilities of types needed to protect against reasonably predictable and controllable fire losses. Comply with National Fire Protection Association (NFPA) Standard 241.
- B. Smoking in all areas is prohibited.
- C. The Contractor must supervise welding operations, combustion-type temporary heating units, and similar sources of fire ignition according to requirements of authorities having jurisdiction.
- D. The Contractor must develop and supervise an overall fire-prevention and protection program for personnel at Project Site. Review needs with local fire department and establish procedures to be followed. Instruct personnel in methods and procedures. Post warnings and information.
- E. The Contractor must provide temporary standpipes and hoses for fire protection. Hang hoses with a warning sign stating that hoses are for fire-protection purposes only and are not to be removed. Match hose size with outlet size and equip with suitable nozzles.

REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 3.13

3.13 WORK FENCE ENCLOSURE:

- A. The Contractor must furnish, erect and maintain a wood construction or chain-link fence to the extent shown on the Contract Drawings or required by the Work enclosing the entire Project on all sides. All materials used must be new. Any permit required for the installation and use of said fence and costs must be borne by the Contractor.
- B. WOOD FENCE must be seven (7) feet high with framing construction of yellow pine, using 4" x 4" approved preservative-treated posts on not more than 6'-0" centers, with three (3) rails of at least 2" x 4" size to which must be secured minimum 1/2 inch thick exterior grade plywood. Posts must be firmly fixed in the ground at least 30" and thoroughly braced. Top edge of fence must be trimmed with a rabbeted edge mould. Provide on the street traffic sides of fence, observation openings as directed.
 1. GATES: The Contractor must provide an adequate number of double gates, complete with hardware, located as approved by the Resident Engineer. Double gates must have a total clear opening of 14'-0" with two (2) 7'-0" hinged swinging sections. Hanging posts must be 6" x 6" and must extend high enough to receive and be provided with tension or sag rods for the swinging sections.
 2. PAINTING: The fence and gates must be entirely painted on the street and public sides with one (1) coat of exterior primer and one (1) top coat of exterior grade acrylic-latex emulsion paint. Black stenciled signs reading "POST NO BILLS" must be painted on fence with three (3) inch high letters on twenty-five (25) foot spacing for the entire length of fence on street traffic sides. Signs must be stenciled five (5) feet above the sidewalk.



- C. CHAIN-LINK FENCING must be minimum two (2) inch thick, galvanized steel, chain-link fabric fencing; eight (8) feet high with galvanized steel pipe posts; minimum 2-3/8-inch Outside Diameter (OD) line posts and 2-7/8-inch OD corner and pull posts, with 1-5/8-inch OD top and bottom rails. Fence must be accurately aligned and plumb, adequately braced and complete with gates, locks and hardware as required. Under no condition must fencing be attached or anchored to existing construction or trees.
- D. ADDITIONAL REQUIREMENTS:
 - 1. It must be the obligation of the Contractor to remove all posters, advertising signs, and markings, etc., immediately.
 - 2. Should the fencing be required to be relocated during the course of the Contract, it must be done by the Contractor at no additional cost to the City.
 - 3. Where sidewalks are used for "drive over" purposes for Contractor vehicles, a suitable wood mat or pad must be provided for protection of sidewalks and curbs.
 - 4. Where required, make provision for fire hydrants, lampposts, etc.
- E. REMOVAL: When directed by the Resident Engineer, the fence must be removed.

3.14 RODENT AND INSECT CONTROL:

- A. DESCRIPTION: The Contractor must provide all labor, materials, plant and equipment, and incidentals required to survey and monitor rodent activity and to control any infestation or outbreak of rodents, rats, mice, water beetles, roaches and fleas within the Project area. Special attention should be paid to the following conditions or areas:
 - 1. Wet areas within the Project area, including all temporary structures.
 - 2. All exterior and interior temporary toilet structures within the Project area.
 - 3. All Field Offices and shanties within the Project area of all subcontractors and DDC.
 - 4. Wherever there is evidence of food waste and/or discarded food or drink containers, in quantity, that would cause breeding of rodents or the insects herein specified.
 - 5. Any other portion of the Site requiring such special attention.
- B. MATERIALS:
 - 1. All materials must be approved by the New York State Department of Environmental Conservation (DEC) and comply with the New York City Health Code, OSHA and the laws, ordinances and regulations of state and federal agencies pertaining to such chemical and/or materials.
- C. PERSONNEL:
 - 1. All pest control personnel must be supervised by an exterminator licensed in categories 7A and 8.
- D. METHODS:
 - 1. Application and dosage of all materials must be done in strict compliance with the manufacturer's recommendations.
 - 2. Any unsanitary conditions, such as uncollected garbage or debris, resulting from all Contractor's activities, which will provide food and shelter to the resident rodent population must be corrected by the Contractor immediately after notification of such condition by the Resident Engineer.
- E. RODENT CONTROL WORK:
 - 1. In wetlands, woodlands, and areas adjacent to a stream, special precautions must be taken to protect water quality and to ensure the safety of other wildlife. To prevent poisoned bait from entering streams, no poisoned bait must be used in areas within seventy-five (75) feet of all stream banks.



Live traps must be used in these seventy-five (75) foot buffer zone areas and within wetland and woodland areas.

2. In areas outside the seventy-five (75) foot zone of protection adjacent to streams, and in areas outside wetlands and woodlands, tamper proof bait stations with poisoned bait must be placed during the period of construction and any consumed or decomposed bait must be replenished as directed.
3. At least one (1) month prior to initiation of the construction Work, and periodically thereafter, live traps and/or rodenticide bait in tamper proof bait stations, as directed above, must be placed at locations that do not allow access to pets, human beings, children and other non-target species, particularly wildlife (for example-birds) in the Project area.
4. The Contractor must be responsible for collecting and disposing of all trapped and poisoned rodents found in live traps and tamper-proof bait stations. The Contractor must also be responsible for posting and maintaining signs announcing the baiting of each particular location.
5. The Contractor must be responsible for the immediate collection and disposal of any visible rodent remains found on streets or sidewalks within the Project area.
6. It is anticipated that public complaints will be addressed to the Commissioner. The Contractor, where directed by the Commissioner, must take appropriate actions, like baiting, trapping, proofing, etc., to remedy the source of complaint within the next six (6) hours of normal working time which is defined herein for the purposes of this section as 7 A.M. to 6 P.M. on Mondays through Saturdays.
7. Emergency service during the regular workday hours (Monday through Friday) must be rendered within twenty-four (24) hours, if requested by the Commissioner, at no additional cost to the City.

F. EDUCATION & NOTICES:

1. The Contractor must post notices on all Construction Bulletin Boards advising workers, employees, and residents to call the DDC Field Office to report any infestation or outbreak of rodents, rats, mice, water beetles, roaches and fleas within the Project area. The Contractor must provide and distribute literature pertaining to Integrated Pest Management (IPM) techniques of rodent control to affected businesses and superintendents of nearby residential buildings to ensure their participation in maintaining their establishments free of unsanitary conditions, harborage removal and rodent proofing.
2. Prior to application of any chemicals, the Contractor must furnish to the Commissioner copies or sample labels for each pesticide, antidote information, and Material Data Safety Sheets (MSDS) for each chemical used.

G. RECORDS

1. The Contractor must keep a record of all rodent and waterbug infestation surveys conducted and make available, upon request, to the Commissioner. The findings of each survey must include, but not be limited to, recommended IPM techniques, like baiting, trapping, proofing, etc., proposed for rodent and waterbug pest control.
2. The Contractor must maintain records of all locations baited along with the type and quantity of rodenticide and insecticide bait used.

3.15 PLANT PEST CONTROL REQUIREMENTS AND TREE PROTECTION REQUIREMENTS:

- A. Plant Pest Control Requirements: The Contractor and its subcontractors, including the Certified Arborist described below, must comply with all federal and New York State laws and regulations concerning Asian Longhorned Beetle (ALB) management, including protocols for ALB eradication and containment promulgated by the New York State Department of Agriculture and Markets (NYSDAM). The Contractor is referred to: (1) Part 139 of Title 1 NYCRR, Agriculture and Markets Law, Sections 18, 164 and 167, as amended, and (2) State Administrative Procedure Act, Section 202, as amended.



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1. All tree Work performed within the quarantine areas must be performed by NYSDAM certified entities. Transportation of all host material, living, dead, cut or fallen, inclusive of nursery stock, logs, green lumber, stumps, roots, branches and debris of a half inch or more in diameter from the quarantine areas is prohibited unless the Contractor or its subcontractor performing tree Work has entered into a compliance agreement with NYSDAM. The terms of said compliance agreement must be strictly complied with. Any host material so removed must be delivered to a facility approved by NYSDAM. For the purpose of this Contract, host material must be ALL species of trees.
 2. Any host material that is infested with the ALB must be immediately reported to NYSDAM for inspection and subsequent removal by either State or City contracts, at no cost to the Contractor.
 3. Prior to commencement of tree Work, the Contractor must submit to the Commissioner a copy of a valid ALB compliance agreement entered into with NYSDAM and the Contractor or its subcontractor performing tree Work. If any host material is transported from the quarantine area the Contractor must immediately provide the Commissioner with a copy of the New York State 'Statement of Origin and Disposition' and a copy of the receipt issued by the NYSDAM approved facility to which the host materials are transported.
 4. Quarantine areas, for the purpose of this Contract, must be defined as all five boroughs of the City of New York. In addition, prior to the start of any tree Work, the Contractor must contact the NYC Department of Parks & Recreation's (DPR) Director of Landscape Management at (718) 699-6724, to determine the limits of any additional quarantine areas that may be in effect at the time when tree Work is to be performed. The quarantine area may be expanded by federal and state authorities at any time and the Contractor is required to abide by any revisions to the quarantine legislation while working on this Contract. For further information please contact: NYSDAM (631) 288-1751.
- B. Tree Protection Requirements: The Contractor must retain a Certified Arborist, as defined by DPR regulations, to provide the services described below.
1. Surveys and Reports: The Certified Arborist must, at the times indicated below, conduct a survey and prepare a plant material assessment report which includes: (1) identification, by species and pertinent measurements, of all plant material located on the Project Site, or in proximity to the Project Site, as described below, including all trees, significant shrubs and/or planting masses; (2) identification and plan for the containment of plant pests and pathogens, including the ALB, as described in paragraph A above; and (3) evaluation of the general health and condition of any infected plant material.
 2. Frequency of Reports: The Certified Arborist must conduct a survey and provide a plant material assessment report at two (2) points in time: (1) prior to the commencement of construction Work; and (2) at the time of Substantial Completion. In addition, for projects exceeding twenty-four (24) months in duration, the Certified Arborist must conduct a survey and prepare a report at the midpoint of construction. Copies of each plant material assessment report must be submitted to the Resident Engineer within two (2) weeks of the survey.
 3. Proximity to Project Site: Off-site trees, significant shrubs and/or planting masses must be considered to be located in proximity to the Project Site under the circumstances described below.
 - a. The tree trunk, significant shrub, or primary cluster of stems in a planting mass is within fifty (50) feet of the project's Contract Limit Lines (CLLs) or Property Lines (PLs).
 - b. Any part of the tree or shrub stands within fifty (50) feet of: (a) a path for Site access for vehicles and/or construction equipment; or (b) scaffolding to be erected for construction activity, including façade remediation projects.
 - c. The Certified Arborist determines that the critical root zone (CRZ) of an off-site tree, significant shrub, or primary cluster of stems in a planting mass extends into the Project Site, whether or not that plant material is located within the fifty (50) foot inclusionary perimeter as outlined above.



4. Tree Protection Plan: The Certified Arborist must prepare, and the Contractor must implement, a Tree Protection Plan for all trees that may be affected by any construction Work, excavation or demolition activities, including without limitation: (1) on-site trees, (2) street trees, as defined below, (3) trees under DPR jurisdiction as determined by the NYC Department of Transportation, and (4) all trees that are located in proximity to the Project Site, as defined above. The Tree Protection Plan must comply with the DPR rules, regulations and specifications. The Contractor is referred to Chapter 5 of Title 56 of the Official Compilation of the Rules of the City of New York. Copies of the Tree Protection Plan must be submitted to the Resident Engineer prior to the commencement of construction. Implementation of the Tree Protection Plan for street trees and trees under DPR jurisdiction must be in addition to any tree protection requirements specified or required for the Project Site. For the purpose of this article, a “street tree” means the following: (1) a tree that stands in a sidewalk, whether paved or unpaved, between the curb lines or lateral lines of a roadway and the adjacent property lines of the Project Site, or (2) a tree that stands in a sidewalk and is located within fifty (50) feet of the intersection of the Project’s Site’s PL with the street frontage property line.
- C. No Separate Payment: No separate payment must be made for compliance with Plant Pest Control Requirements or Tree Protection Requirements. The cost of compliance with Plant Pest Control Requirements and Tree Protection Requirements must be deemed included in the Contractor’s bid for the Project.

3.16 PROJECT IDENTIFICATION SIGNAGE:

- A. The Contractor must provide, install and maintain Project identification and other signs where indicated to inform public and individuals seeking entrance to the Project.
- B. In order to properly convey notice to persons entering upon a City construction Site, the Contractor must furnish and install a sign at the entrance (gates) as follows:

**NO TRESPASSING
AUTHORIZED PERSONNEL ONLY**

- C. If no construction fence exists at the Site, this notice must be conveyed by incorporating the above language into safety materials (barriers, tape, and signs).
- D. Provide temporary, directional signs for construction personnel and visitors.
- E. Maintain and touch up signs so that they are legible at all times.

3.17 PROJECT CONSTRUCTION SIGN AND RENDERING:

- A. PROJECT SIGN:
 1. Responsibility: The Contractor must produce and install one (1) Project sign which must be posted and maintained upon the Project Site at a place and in a position directed by the Commissioner. The Contractor must protect the sign from damage during the continuance of Work under the Contract and must do all patching of lettering, painting and bracing thereof necessary to maintain the sign in first class condition and in proper position. Prior to fabrication, the Contractor must submit an 8-1/2” x 11” color match print proof from the sign manufacturer of the completed sign for approval by the Commissioner.
 2. Sign Quality: The Contractor must provide all materials required for the production of the sign as specified herein. Workmanship must be of the best quality, free from defects and must be produced in a timely manner.



3. Schedule: Upon Project mobilization, the Contractor must commence production and installation of the sign.
4. Removal: At the completion of all Work under the Contract, the Contractor must remove and dispose of the Project sign away from the Site.
5. Sign construction:
 - a. Frame: The frame must be from quality dressed 2"x2" pine, fire retardant, pressure treated lumber, that surrounds the inside back edge of the sign. The sign must have one (1) intermediate vertical and two (2) diagonal supports, glued and screwed for rigidity. Frame must be painted white with two (2) coats of exterior enamel paint, prior to mounting of sign panel.
 - b. Edging: U-shaped, twenty-two (22) gauge aluminum edging, with a white enameled finish to match sign background, must run around entire edging of sign panel and frame. Corners must be mitered for a tight fit. Channel dimensions must be 1" inch (overlap to sign panel face) x 1 3/4" (or as required across frame depth) x 1" (back overlap).
 - c. Sign Panel: 4' x 8' panel must be constructed in one (1) piece of fourteen (14) gauge (.0785") 6061-T6 aluminum. This panel must be pre-finished both sides with a glossy white baked-on enamel finish and be flush with edge of 2" x 2" wood frame. Samples must be submitted for approval.
 - d. Fastening: Fasten sign panel to wood frame using cadmium plated no. 8 sheet metal screws at 1/2" below edge of panel and 8" on center. The U-shaped aluminum channel must be applied over the wood frame edge and fastened with cadmium plated no. 8 sheet metal screws at 12" on center around the entire perimeter.
6. Sign Graphics:
 - a. A digital file of the Project sign will be provided to the Contractor by the Commissioner's representative for printing. The Commissioner's representative must insert the Project name and names and titles of personnel (three (3) or more) and any other required information associated with the Project. All signs may include a second panel for a Project rendering as described in sub-section 3.17.B herein.
 - b. The digital file must be reproduced at the Sign Panel size of 4' x 8' on 3M High Performance Vinyl or approved equal. The 3M High Performance Vinyl or equivalent must be guaranteed for nine (9) years. Guarantee must cover fading, peeling, chipping or cracking. The sign manufacturer is required to maintain all specified Pantone Matching System (PMS) type and other composition elements represented in the digital file of the Project sign.

REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 3.17 B
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B. PROJECT RENDERING:

1. Responsibility: In addition to the Project sign, the Contractor must furnish and install one (1) sign showing a rendering of the Project. A digital file of the Project rendering will be provided to the Contractor by the Commissioner's representative. From an approved image file provided by DDC, the Project rendering is to be sized, printed, and mounted in an identical manner as described in sub-section 3.17.A above for the Project sign. A color match print proof from the sign manufacturer of the rendering sign printed from the supplied file is to be submitted to DDC for approval before fabrication. The rendering sign is to be posted at the same height as the Project sign. Where possible, the rendering sign must be mounted with a perfect match of the short sides of the rectangle so that the rendering sign and the Project sign together will create one long rectangle.
2. Removal: At the completion of all Work under the Contract, the Contractor must remove and dispose of the Project rendering away from the Site.



REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 3.18

3.18 SECURITY GUARDS/FIRE GUARDS ON SITE:

A. SECURITY GUARDS (WATCHMEN):

1. The Contractor must provide a competent security guard service on the Site, beginning on the date on which the Contractor commences actual construction Work, or on such earlier date on which there is activity at the Site related to the Work, including without limitation, delivery of materials or construction set-up. The Contractor must continue to provide such security guard service until the date on which it completes all required Work at the Site, including all punch list Work, as certified in writing by the Resident Engineer, or earlier if so directed in writing by the Commissioner. Throughout the specified time period, there must be no less than one (1) security guard on duty every day, including Saturdays, Sunday and holidays, twenty-four (24) hours a day, except between the hours of 8:00 A.M. and 4:00 P.M. on any day which is a regular working day for a majority of the trade subcontractors. This exception during the working day must not apply after the finishing painting of the plaster Work is commenced; thereafter, not less than one (1) security guard must be on duty continuously, twenty-four (24) hours a day.
2. Every security guard must be required to hold a "Certificate of Fitness" issued by FDNY. Every security guard must, during his/her tour of duty, perform the duties of fire guard in addition to his/her security obligations.
3. Should the Commissioner find that any security guard is unsatisfactory, such guard must be replaced by the Contractor upon the written demand of the Commissioner.
4. Each security guard furnished by the Contractor must be instructed by the Contractor to include in his/her duties the entire construction Site including the Field Office, temporary structures, and equipment, materials, etc.
5. Should the Contractor or any other subcontractor consider the security requirements outlined above inadequate, the Contractor must provide such additional security as it thinks necessary, after obtaining the written consent of the Commissioner. The additional cost of such approved increased protection will be paid by the Contractor.
6. Nothing contained in this sub-section must diminish in any way the responsibility of the Contractor and each subcontractor for its own Work, materials, tools, equipment, nor for any of the other risks and obligations outlined hereinbefore in this Article.

- B. COSTS:** The Contractor must employ security guards/fire guards throughout the specified time period, except as otherwise modified by the detailed Specifications and as approved by the Commissioner, for the purpose of safeguarding and protecting the Site. All costs for security guards/fire guards must be borne by the Contractor.

- C. RESPONSIBILITY:** The Contractor and its subcontractors will be responsible for safeguarding and protecting their own work, materials, tools and equipment.

3.19 SAFETY:

- A.** The Contractor, in compliance with requirements of Section 01 35 26, SAFETY REQUIREMENTS PROCEDURES, must provide and maintain all necessary temporary closures, guard rails, and barricades to adequately protect all workers and the public from possible injury. Any removal of these items, during the progress of the Work, must be replaced by the Contractor at no additional cost to the City.

END OF SECTION 01 50 00



**SECTION 01 54 11
TEMPORARY ELEVATORS AND HOISTS**

PART 1 – GENERAL

1.1 RELATED DOCUMENTS:

- A. The following documents apply to all required work for the Project: (1) the Contract Drawings, (2) the Specifications, (3) the General Conditions, (4) the Addendum, and (5) the Contract [City of New York Standard Construction Contract].

1.2 SUMMARY:

- A. This section includes the following:
 - 1. Temporary Use, Operation and Maintenance of Elevators during Construction
 - a. For new buildings up to and including fifteen (15) stories
 - b. For new buildings over fifteen (15) stories
 - c. For existing buildings
 - 2. Temporary Construction Hoists and Hoistways (For Material and Personnel)

1.3 RELATED SECTIONS: include without limitation the following:

- A. Section 01 10 00 SUMMARY
- B. Section 01 42 00 REFERENCES
- C. Section 01 50 00 TEMPORARY FACILITIES AND CONTROLS
- D. Section 01 54 23 TEMPORARY SCAFFOLDS AND SWING STAGING
- E. Section 01 77 00 CLOSE OUT PROCEDURES

PART II – PRODUCTS (Not Used)

PART III – EXECUTION

REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 3.1

3.1 TEMPORARY USE, OPERATION AND MAINTENANCE OF ELEVATORS DURING CONSTRUCTION FOR NEW BUILDINGS UP TO AND INCLUDING FIFTEEN (15) STORIES:

- A. **INSTALLATION:** The Contractor must install, complete, operate, and maintain in good working order, as indicated herein, one (1) selected main elevator for the transport of employees of the Contractor and/or its subcontractors, representatives of DDC, and other governmental agencies having jurisdiction of Work at the Project. The Contractor must furnish, install, and maintain such elevator in good working order, including all necessary hoisting ropes, governor cables, traveling conductor cables, operating devices, temporary hand reset target annunciators, temporary signal devices, and all other permanent or temporary parts. The installation, operation and maintenance of the temporary elevator and all equipment and/or parts utilized in connection therewith must be in accordance with the rules and regulations of all agencies and/or entities having jurisdiction over elevators in temporary use.
- B. **RESPONSIBILITY:** The Contractor must be responsible for any injury to persons or damage to property arising out of the temporary elevator and all equipment and/or parts utilized in connection therewith.
- C. **COSTS:** The Contractor must be responsible for all costs in connection with the temporary elevator, including without limitation:



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1. Installing and operating the temporary elevator;
2. Maintaining the temporary elevator in clean and proper operating condition, including the cost of lubricants and/or parts for such maintenance;
3. Performing all Work in pits, shaft ways and machine rooms necessary for the operation of the temporary elevator;
4. Replacing the temporary elevator or any equipment or parts utilized in connection therewith, if required, due to damage, destruction, or excessive wear or corrosion, except for the replacement of hoisting ropes as set forth below;
5. Performing all required electrical Work in connection with the temporary elevator;
6. Providing all electric power required to operate the temporary elevator;
7. Providing all necessary conduit and wiring connections for the proper operation and signaling of the temporary elevator; and
8. Providing all labor for the operation and maintenance of the temporary elevator, including on an overtime basis if necessary.

The total Contract price must include all costs in connection with the temporary elevator, including without limitation, the costs specified herein.

- D. **COMMENCEMENT OF SERVICE:** The Contractor must begin to provide temporary elevator service using the selected main passenger elevator no later than eight (8) weeks (forty (40) Days) after the machine room roof slab, or that portion of it surrounding the elevator shaft, has been placed. No later than three (3) weeks (fifteen (15) Days) after the machine room roof slab has been placed, or that portion of it surrounding the elevator shaft, the following Work must be completed:
1. The shaft must be completely enclosed by either a permanent or temporary enclosure meeting all building code requirements.
 2. The machine room must be completely watertight either by permanent or temporary construction. Beams or other devices, either permanent or temporary, must be provided to enable the safe and practicable hoisting of the elevator machinery for installation.
 3. On all floors at the shaft way entrances to the elevator, the Contractor must install solid substantial frames, either sliding or swing doors with substantial hardware and door locks, and any necessary approved wire mesh barricades for adjacent shaft ways.
 4. The Contractor must furnish and install solid, substantial enclosures at front, back, sides and top of car platform enclosure, with an emergency exit at the top of car and a substantial temporary door or gate on the front of the elevator entrance.
- E. **ELECTRICAL INSTALLATION:** The Contractor, no later than twenty (20) Days after the machine room roof slab or that portion of it surrounding the elevator has been placed, must furnish and install temporary or permanent power and light feeders as required for the elevator used for temporary service. Additionally, the Contractor must connect such feeders to the terminals on the starter panels or controllers in the machine room to the low voltage transformers and car light outlets in the center of the shaft way and for the car control and signal traveling cables. The Contractor must make all these required connections as soon as the equipment is declared ready for such connections by the Resident Engineer.
- F. **REMOVAL:** As directed by the Commissioner and when elevators for permanent use have been installed and are in proper condition for service, the Contractor must remove the temporary enclosures and all temporary elevator equipment and promptly proceed with the installation of the permanent equipment as required under the Contract.



- G. **INSPECTION:** Before temporary elevator equipment is removed, a joint inspection of the equipment must be made by the Contractor and the Commissioner to determine the condition of this equipment upon the discontinuation of its temporary use. If this inspection deems it necessary, the Contractor must furnish and install new governor and compensating ropes, traveling cables, controller parts, etc. The car and counterweight safeties must be thoroughly cleaned of all dirt and all foreign matter, then properly lubricated and placed in good operating condition to the satisfaction of the Commissioner. If it is determined and ordered by the Commissioner that new hoist ropes are required, such ropes must be installed and payment will be made in accordance with Article 26 of the Contract.
- H. **REPLACEMENT:** The Contractor must furnish and install new equipment or parts for any equipment or parts of the temporary elevator installation that have been damaged, destroyed, or that indicate excessive wear or corrosion, except for the replacement of hoisting ropes. All shaft ways, pits, motor rooms and sheave spaces used for temporary operation of elevators must be thoroughly cleaned. Where lubricated rails are used they must be washed down. If roller guides are used, all rust, dirt, etc., must be moved from the rails. The full cost of parts replacement, cleaning, etc., must be borne by the Contractor except for the replacement of hoisting ropes.
- I. **LIMITATIONS ON USE:** The temporary elevator must not be used during its operation for the hoisting of materials or the removal of rubbish, but must be limited only to the transportation of employees of the Contractor and/or its subcontractors, representatives of DDC, and other governmental agencies having jurisdiction of work at the Project. However, the Resident Engineer may grant special permission at specified times to the Contractor and/or its subcontractors to hoist materials, which in the Resident Engineer's opinion will not overload or damage the elevator installation. In the event of any damage to the temporary elevator, the Contractor must notify the Resident Engineer within twenty-four (24) hours after such damage has occurred. As indicated above, the Contractor must be responsible for the replacement of any equipment or parts of the temporary elevator that have been damaged.
- J. **LIQUIDATED DAMAGES:** The Contractor will be charged at the rate of one hundred dollars (\$100) per Day for each Day it fails to provide the temporary elevator service described in this section beginning with the forty-first (41st) Day after the machine room roof slab, or that portion of it surrounding the elevator shaft, has been placed and stripped. This charge will be deducted from any amount due and owing to the Contractor.

REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 3.2

3.2 TEMPORARY USE, OPERATION AND MAINTENANCE OF ELEVATORS DURING CONSTRUCTION FOR NEW BUILDING OVER FIFTEEN (15) STORIES:

- A. **INSTALLATION:** The Contractor must install, complete, operate, and maintain in good working order, as indicated herein, two (2) selected main elevators for the transport of employees of the Contractor and/or its subcontractors, representatives of DDC, and other governmental agencies having jurisdiction of work at the Project. The Contractor must furnish, install, and maintain such elevators in good working order, including all necessary hoisting ropes, governor cables, traveling conductor cables, operating devices, temporary hand reset target annunciators, temporary signal devices, and all other permanent or temporary parts. The installation, operation, and maintenance of the temporary elevators and all equipment and/or parts utilized in connection therewith must be in accordance with the rules and regulations of all agencies and/or entities having jurisdiction over elevators in temporary use. The two (2) elevators must not be operated simultaneously.
- B. **RESPONSIBILITY:** The Contractor must be responsible for any injury to persons or damage to property arising out of the temporary elevators and all equipment and/or parts utilized in connection therewith.
- C. **COSTS:** The Contractor must be responsible for all costs in connection with the temporary elevators, including without limitation:
 - 1. Installing and operating the temporary elevators;



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2. Maintaining the temporary elevators in clean, proper operating condition, including the cost of lubricants and/or parts for such maintenance;
3. Performing all Work in pits, shaft ways and machine rooms necessary for the operation of the temporary elevators;
4. Replacing the temporary elevators or any equipment or parts utilized in connection therewith, if required due to damage, destruction, or excessive wear or corrosion, except for the replacement of hoisting ropes as set forth below;
5. Performing all required electrical Work in connection with the temporary elevators;
6. Providing all electric power required to operate the temporary elevators;
7. Providing all necessary conduit and wiring connections for the proper operation and signaling of the temporary elevators; and
8. Providing all labor for the operation and maintenance of the temporary elevators, including on an overtime basis if necessary.

The total Contract price must include all costs in connection with the temporary elevators, including without limitation, the costs specified herein.

- D. **LOW RISE ELEVATOR:** The Contractor must begin to provide temporary elevator service using one (1) selected main passenger elevator no later than six (6) weeks (thirty (30) Days) after the twelfth (12th) floor slab, or that portion of it surrounding the elevator shaft, has been placed and stripped. No later than one (1) week, (five (5) Days), after the twelfth (12th) floor slab, or that portion of it surrounding the elevator shaft, has been placed and stripped, the following Work must have been completed:
1. The shaft must be completely enclosed up to the twelfth (12th) floor by either the permanent or a temporary enclosure meeting the requirements of the law.
 2. A temporary machine room enclosure must be provided at the eleventh (11th) floor and must be completely watertight either by permanent or temporary construction. Beams or other devices, either permanent or temporary, must be provided which will enable the safe and practicable hoisting of the elevator machinery for installation.
 3. The Contractor must install on all floors up to and including the ninth (9th) floor at the shaft entrances to the elevator, solid substantial wood frames, either sliding or swing doors with substantial hardware and door locks, and any necessary approved wire mesh barricades for adjacent shaft ways.
 4. The Contractor must furnish and install solid substantial enclosures at front, back, sides and top of car platform enclosure, with an emergency exit at top of car, except that the portion of the front at the elevator entrance must be provided with a substantial temporary door or gate.
- E. **ELECTRICAL INSTALLATION:** The Contractor must, no later than ten (10) Days after the twelfth (12th) floor slab or that portion of it surrounding the elevator has been poured and stripped, furnish and install temporary or permanent power and light feeders as required for the elevator used for temporary service. The Contractor must connect such feeders to the terminals on the starter panels or controllers in the temporary machine room to the low voltage transformers, car light outlets in the center of the shaftway, and for the car control and signal traveling cables. The Contractor must make all these required connections as soon as the equipment is declared ready for such connections by the Resident Engineer.
- F. **HIGH RISE ELEVATOR:** The Contractor must begin to provide temporary elevator service to all floors using a selected main passenger elevator no later than eight (8) weeks (forty (40) Days) after the machine room roof slab, or that portion of it surrounding the elevator shaft has been placed. No later than three (3) weeks (fifteen (15) Days) after the machine room roof slab, or that portion of it surrounding the elevator shaft has been placed, the following Work must have been completed:
1. The shaft must be completely enclosed by either the permanent or temporary enclosure, meeting the



requirements of the law.

2. The machine room must be completely watertight either by permanent or temporary construction. Beams or other devices, either permanent or temporary, must be provided to enable the safe and practicable hoisting of the elevator machinery for installation.
 3. The Contractor must install on all floors at the shaft way entrances to the elevator solid substantial frames, either sliding or swing doors with substantial hardware and door locks, and any necessary approved wire mesh barricades for adjacent shaft ways.
 4. The Contractor must furnish and install solid substantial enclosures at front, back, sides and top of car platform enclosure, with an emergency exit at top of car, except that the portion of the front at the elevator entrance must be provided with a substantial temporary door or gate.
- G. **ELECTRICAL INSTALLATION:** The Contractor must, not later than twenty (20) Days after the machine room slab or that portion of it surrounding the elevator shaft has been placed, furnish and install temporary or permanent power and light feeders as required for the high-rise elevator to be used for temporary service. The Contractor must connect such feeders to the terminals on the motor-generator starter panels, or controllers in the machine room, to the signal circuits low voltage transformers for the annunciators and car light outlets in the center of shaft way. The Contractor must make all these required connections as soon as the equipment is declared ready for such connections by the Resident Engineer.
- H. When the high-rise elevator is completed and ready for temporary operation, the low-rise temporary elevator must be shut down.
- I. **REMOVAL:** When directed by the Commissioner and one (1) or more elevators for permanent use have been installed and are in condition for service, the Contractor must remove the temporary enclosures, all temporary elevator equipment, and promptly proceed with the installation of the permanent equipment as required under the Contract.
- J. **INSPECTION:** Before temporary elevator equipment is removed, a joint inspection of the equipment must be made by the Contractor and the Commissioner to determine the condition of this equipment upon the discontinuation of its temporary use. If this inspection determines it necessary, the Contractor must furnish and install new governor and compensating ropes, new traveling cables, new controller parts, etc. The car and counterweight safeties must be thoroughly cleaned of all dirt and all foreign matter, then properly lubricated and placed in good operating condition to the satisfaction of the Commissioner. If it is determined and ordered by the Commissioner that new hoist ropes are required, such ropes must be installed and payment will be made in accordance with Article 26 of the Contract.
- K. **REPLACEMENT:** The Contractor must furnish and install new equipment or parts for any equipment or parts of the temporary elevator installations that have been damaged, destroyed, or that indicate excessive wear or corrosion, except the replacement of hoisting ropes. All shaft ways, pits, motor rooms and sheaves spaces used for temporary operation of elevators must be thoroughly cleaned down. Where lubricated rails are used they must be washed down; if roller guides are used, all rust, dirt, etc., must be removed from the rails. The full cost of parts replacement cleaning, etc., must be borne by the Contractor except for the replacement of hoisting ropes.
- L. **LIMITATIONS ON USE:** The temporary elevators must not be used during their operation for the hoisting of materials or the removal of rubbish, but must be limited only to the transportation of employees of the Contractor and/or its subcontractors, representatives of DDC, and other governmental agencies having jurisdiction of Work at the Project. However, the Resident Engineer may grant special permission at specified times to the Contractor and/or its subcontractors to hoist materials, which in the Resident Engineer's opinion will not overload or damage the elevator installation, but only after such times as all plastering has been completed from the second floor up. In the event of any damage to the temporary elevator, the Contractor must notify the Resident Engineer within twenty-four (24) hours after such damage has occurred. As indicated above, the Contractor must be responsible for the replacement of any equipment or parts of the temporary elevator that have been damaged.



- M. **LIQUIDATED DAMAGES:** The Contractor will be charged at the rate of one hundred dollars (\$100) per Day for each Day it fails to provide the temporary elevator service described in this Section beginning with the thirty-first (31st) Day after the twelfth (12th) floor slab, or that portion of the twelfth (12th) floor slab surrounding the elevator shaft, has been placed and stripped. This charge will be deducted from any amount due and owing to the Contractor.

REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 3.3

3.3 TEMPORARY USE, OPERATION AND MAINTENANCE OF ELEVATORS DURING CONSTRUCTION FOR EXISTING BUILDINGS:

- A. The Contractor may use, at the Commissioner's discretion, one (1) selected elevator in the building for temporary operation by the Contractor for the transportation of employees of the Contractor and/or its subcontractors, representatives of DDC, and other governmental agencies having jurisdiction over the Work at the Project. The operation of the temporary elevator and all equipment and/or parts utilized in connection therewith must be in accordance with the rules and regulations of all agencies and/or entities having jurisdiction over elevators in temporary use.
- B. **RESPONSIBILITY:** The Contractor must be responsible for any injury to persons or damage to property arising out of the temporary elevator and all equipment and/or parts utilized in connection therewith.
- C. **REPLACEMENT:** The Contractor must furnish and install new equipment or parts for any equipment or parts of the elevator for temporary operation that have been damaged, destroyed, or that indicate excessive wear or corrosion, except the replacement of hoisting ropes. All shaft ways, pits, motor rooms and sheave spaces used for temporary operation of elevators must be thoroughly cleaned down. Where lubricated rails are used they must be washed down, if roller guides are used, all rust, dirt, etc., must be moved from the rails. The full cost of parts replacement, cleaning, etc., must be borne by the Contractor except for the replacement of hoisting ropes. If it is determined and ordered by the Commissioner that new hoist ropes are required, such ropes must be installed and payment will be made in accordance with Article 26 of the Contract.
- D. **LIMITATIONS ON USE:** The temporary elevator must not be used during its operation for the hoisting of materials or the removal of rubbish, but must be limited only to the transportation of employees of the Contractor and/or its subcontractors, representatives of DDC, and other governmental agencies having jurisdiction of Work at the Project. However, the Resident Engineer may grant special permission at specified times to the Contractor and/or its subcontractors to hoist materials, which in the Resident Engineer's opinion will not overload or damage the elevator installation. In the event of any damage to the temporary elevator, the Contractor must notify the Resident Engineer within twenty-four (24) hours after such damage has occurred. As indicated above, the Contractor must be responsible for the replacement of any equipment or parts of the temporary elevator that have been damaged.
- E. **LIQUIDATED DAMAGES:** The Contractor will be charged at the rate of one hundred dollars (\$100) per Day for each Day it fails to provide elevator services described in this section beginning with fifteen (15) Days from Notice to Proceed (NTP). This charge will be deducted from any amount due and owing to the Contractor.

3.4 TEMPORARY HOISTS AND HOISTWAYS (FOR MATERIAL AND PERSONNEL):

- A. **RESPONSIBILITY:** The Contractor must provide adequate numbers of material hoists for the most expeditious performance of all parts of the Work including the Work of all its subcontractors.
- B. **LOCATIONS:** No hoists must be constructed at such locations as to interfere with, or affect the construction of, floor arches or the Work of subcontractors. The hoists may be located at the exterior sides of the structure or in the courtyard and extend upward adjacent to the line of window openings. The hoists must be located a sufficient distance from the exterior walls and be so protected as to prevent any of the permanent Work from being damaged, stained or marred.



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- C. ELEVATOR SHAFT: Wherever possible, one or more of the permanent elevator shafts may be used as temporary hoistways, providing such use complies with the requirements of the Building Code of the City of New York, has been approved by the Commissioner, and does not interfere with the progress of the Work.
- D. PROTECTION FOR INTERIOR HOISTS: All interior material hoistways must be enclosed on each floor and must be adequately protected with appropriate safety guards. In no event must the protection be less than that required by law.

END OF SECTION 01 54 11



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**SECTION 01 54 23
TEMPORARY SCAFFOLDING AND PLATFORMS**

PART 1 – GENERAL

1.1 RELATED DOCUMENTS:

- A. The following documents apply to all required work for the Project: (1) the Contract Drawings, (2) the Specifications, (3) the General Conditions, (4) the Addendum, and (5) the Contract [City of New York Standard Construction Contract].
- B. SECTION 01 35 26 SAFETY REQUIREMENTS PROCEDURES.
- C. The Contractor must comply with the requirements of “*The City of New York Department of Design and Construction Safety Requirements*”. This document is included in the Information for Bidders.

1.2 SUMMARY:

- A. This Section includes administrative and general procedural requirements for Temporary Scaffolding and Platforms, including:
 - 1. Conformance
 - 2. Responsibility
 - 3. Jobsite Documentation and Submittals
 - 4. Inspections
- B. This Section governs ALL scaffold used on DDC Project site(s), including but not limited to, Suspended Scaffold, Supported Scaffold, and Sidewalk Sheds.

1.3 CONFORMANCE:

- A. Unless otherwise indicated, the Contractor is responsible for providing, erecting, installing, and maintaining all temporary scaffolding and platforms which must comply with requirements of Chapter 33 (Safeguards During Construction or Demolition) of the New York City (NYC) Building Code, NYC Local Law 52 of 2005, OSHA Construction Standard 1926 Subpart L, and furnishing the items and personnel set forth in this Section.

1.4 RESPONSIBILITY:

- A. Jobsite Safety Coordinator: The Contractor must designate and employ a Jobsite Safety Coordinator, who must be a competent person, who must have a daily presence on the Project site during scaffold use. This designee must possess and maintain a valid New York City Department of Buildings (DOB) supported scaffold certificate of completion. An alternate must also be designated in the event that the Jobsite Safety Coordinator is absent. The Jobsite Safety Coordinator must:
 - 1. Verify completeness of documentation and submittals (as described below);
 - 2. Verify that inspections are performed, including pull tests (see below), reports are filed and reported deficiencies are corrected;
 - 3. Monitor trades using scaffold;
 - 4. Limit access to scaffold areas that are tagged for non-use;
 - 5. Inform trades of scaffold load limitations;
 - 6. Monitor loading of decks;
 - 7. Verify that any ties that are temporarily removed are properly restored in the same shift;
 - 8. Verify that outriggers and planks that are moved are properly set up and secured;
 - 9. Verify that all scaffold decks in use have proper access/egress;
 - 10. Verify that all open sides of decks in excess of 14 inches have proper guardrails and toe-boards;



11. Notify appropriate parties, including but not limited to the Resident Engineer, Site Safety Coordinator / Monitor, Site Safety consultant, scaffold users, Contractor and the Scaffold Engineer, of misuses, non-conformances, hazards and accidents; and,
 12. Keep a log of significant actions and events connected with the scaffolding.
- B. The Contractor will be responsible for erecting, maintaining, and dismantling the scaffolding and/or sidewalk shed in conformance with requirements of the NYC Building Code, OSHA and the Contract Documents, including the Specifications. The Contractor must also be guided by generally accepted standards of scaffold industry practice as promulgated by the Scaffold Industry Association.
- C. The Contractor must require the subcontractor responsible for erecting the scaffolding to engage a Scaffold Engineer, licensed as a professional engineer by the State of New York. The Scaffold Engineer will be responsible to ensure the following: (1) that the installation design is in compliance with requirements of the NYC Building Code and OSHA, (2) that the design comports with the capabilities of the components and the characteristics of the site, (3) that scaffold loads on the host building, including netting, have been properly considered, and (4) that the design documents provide accurate information for erectors and users.
- D. Scaffold users are trade contractors assigned to work on the scaffold. Training certificates from a DOB-approved training provider are mandatory. These users have a duty to become familiar with the NYC Building Code and OSHA requirements germane to users, to obey the instructions of the Jobsite Safety Coordinator, and to inform the Jobsite Safety Coordinator of known hazards, non-conformances, or violations.

1.5 JOBSITE DOCUMENTATION AND SUBMITTALS:

The Contractor must prepare, obtain, and submit the following to the Resident Engineer:

- A. NYC DOB permit(s) for scaffold and sidewalk sheds (as applicable) including filing applications signed and sealed by a Professional Engineer licensed in the State of New York;
- B. Site logistics plan / site safety plan;
- C. Installation drawing(s), design, and product data to be provided for **all** scaffold(s) and shed(s) must include, at a minimum:
1. Plan(s);
 2. Elevation(s);
 3. Duty load designation: "standard" (150 psf live load) or "heavy duty" (300 psf live load);
 4. Details including base support, anchors and ties;
 5. Notes and specifications including load limits, number of planked levels, tie spacing, netting, and sequence of installation and removal;
 6. Anchorage into sound material;
 7. Load limits based on pull tests;
 8. Specifications for pull test(s), method, proof load and the number of trials;
 9. Elevations, levels or heights, where anchorage is made into masonry;
 10. Specifications for frames, planks, screw jacks, anchors, and any other ancillary hardware;
 11. Samples for anchors, ties and netting;
 12. Sequence of operations for erection and demolition;
 13. Location plan, heights, widths, "jumps" over doorways and driveways;
 14. Specify size, maximum span and maximum spacing of headers and stringers;
 15. Specify legs, girts, braces, nailing and connections; and,
 16. All sidewalk sheds must be designed, engineered, signed, and sealed by a Professional Engineer licensed in the State of New York;
 - a. Generic (not job-specific) engineering drawings are satisfactory for standard sheds and arrangements.



- b. Special engineering is required for custom sheds, site-specific problems or non-standard arrangements.

1.6 INSPECTIONS:

- A. Signed inspection reports must be issued for each inspection and pull-test below, and must be logged and maintained on site by the Jobsite Safety Coordinator for the duration of the Project.
- B. Pull testing will be required during design, and during or post erection, where anchorage is made into masonry. The Scaffold Engineer must specify the test method, proof load, and the number of trials.
- C. Sidewalk sheds must be inspected after initial installation, major modification, or damage and thence every three months. Inspections must be by a Scaffold Engineer for custom sheds and by a Competent Person employed by the Contractor for standard sheds.
- D. Scaffolds must be inspected by the Scaffold Engineer during erection, post-erection, and prior to use and thence every three (3) months. The Scaffold Engineer must repeat inspections after major alteration/ modification, and/or damage.
- E. A Qualified Person assigned by the Contractor must inspect: the progress of erection and dismantling; and, the condition and integrity of the sidewalk sheds after high winds, major storms, and at least once per month during usage.
- F. A Qualified Person assigned by the Contractor must inspect: the progress of erection and dismantling at least weekly; and, the condition and integrity of the scaffold after high winds, major storms, and at least once per month during usage.
- G. Scaffolds and Sidewalk Sheds must be inspected daily by the Jobsite Safety Coordinator or alternate, prior to use by scaffold users. The inspection results must be recorded in the maintenance log and must always be available on-site.
- H. At the completion of the Project, submit all inspection documents as Miscellaneous Record Documents in accordance with SECTION 01 78 39 CONTRACT RECORD DOCUMENTS.

1.7 LADDERS AND STAIRS:

- A. The Contractor must provide and maintain ladders or temporary stairs extending from the street to the first story, and to and from every floor and roof level of the Project.

1.8 ACCESS AND EXITS:

- A. The ladders or temporary stairs must be of acceptable size, number and location, so that proper and convenient access may be had by those required to proceed to and from all parts of the Project.

PART II – PRODUCTS (Not Used)

PART III – EXECUTION (Not Used)

END OF SECTION 01 54 23



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**SECTION 01 60 00
PRODUCT REQUIREMENTS**

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

- A. The following documents apply to all required work for the Project: (1) the Contract Drawings, (2) the Specifications, (3) the General Conditions, (4) the Addendum, and (5) the Contract [City of New York Standard Construction Contract].

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for selection of products for use in Project; product delivery, storage, and handling; manufacturers' standard warranties on products; special warranties; and comparable products.

1.3 RELATED SECTIONS:

- A. Section 01 42 00 REFERENCES for applicable industry standards for products specified.

1.4 DEFINITIONS

- A. Products: Items obtained for incorporating into the Work, whether purchased for Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.
 - 1. Named Products: Items identified by manufacturer's product name, including make or model number or other designation shown or listed in manufacturer's published product literature that is current as of date of the Contract Documents.
 - 2. New Products: Items that have not previously been incorporated into another project or facility. Products salvaged or recycled from other projects are not considered new products.
 - 3. Comparable Product: Product that is demonstrated and approved by Commissioner through submittal process to have the indicated qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics that equal or exceed those of specified product.
- B. Basis-of-Design Product Specification: A specification in which a single manufacturer's product is named and accompanied by the words "basis-of-design product," including make or model number or other designation. In addition to the basis-of-design product description, product attributes and characteristics are listed to establish the significant qualities related to type, function, in-service performance and physical properties, weight, dimension, durability, visual characteristics, and other special features and requirements for purposes of evaluating comparable products of additional manufacturers named in the specification.



- C. Subject to Compliance with Requirements: Where the phrase "Subject to compliance with requirements" introduces a product selection procedure in an individual Specification Section, provide products qualified under the specified product procedure.

1.5 ACTION SUBMITTALS

- A. Product Specification Submittals: Comply with requirements in Section 01 33 00 SUBMITTAL PROCEDURES. Show compliance with requirements.
- B. Comparable Product Request Submittal: Submit request for consideration of each comparable product. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.
 - 1. Include data to indicate compliance with the requirements specified in "Comparable Products" Article.
 - 2. Review Action: If necessary, Commissioner will request additional information or documentation for evaluation and will notify Contractor of approval or rejection of proposed comparable product request.
 - a. Format of Approval of Submittal: Per Article 1.6 of Section 01 33 00 SUBMITTAL PROCEDURES.
 - b. Use product specified, or products by Manufacturers specified if Commissioner does not issue a decision on use of a comparable product request.

1.6 QUALITY ASSURANCE

- A. Compatibility of Options: If Contractor is given option of selecting between two or more products for use on Project, select product compatible with products previously selected, even if previously selected products were also options.
- B. Identification of Products: Except for required labels and operating data, do not attach or imprint manufacturer or product names or trademarks on exposed surfaces of products or equipment that will be exposed to view in occupied spaces or on the exterior.
 - 1. Labels: Locate required product labels and stamps on a concealed surface, or, where required for observation following installation, on a visually accessible surface that is not conspicuous.
 - 2. Equipment Nameplates: Provide a permanent nameplate on each item of service-connected or power-operated equipment. Locate on a visually accessible but inconspicuous surface. Include information essential for operation, including the following:
 - a. Name of product and manufacturer.
 - b. Model and serial number.
 - c. Capacity.
 - d. Speed.
 - e. Ratings.
 - 3. See individual identification sections in Divisions 21, 22, 23, and 26 for additional identification requirements.



1.7 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, and handle products using means and methods that will prevent damage, deterioration, and loss, including theft and vandalism. Comply with manufacturer's written instructions.
- B. Delivery and Handling:
 - 1. Schedule delivery to minimize long-term storage at Project site and to prevent overcrowding of construction spaces.
 - 2. Coordinate delivery with installation time to ensure minimum holding time for items that are easily damaged, or sensitive to deterioration, theft, and other losses.
 - 3. Deliver products to Project site in an undamaged condition in manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.
 - 4. Inspect products on delivery to determine compliance with the Contract Documents and to determine that products are undamaged and properly protected.
- C. Storage:
 - 1. Store products to allow for inspection and measurement of quantity or counting of units.
 - 2. Store materials in a manner that will not endanger Project structure.
 - 3. Store products that are subject to damage by the elements, under cover in a weathertight enclosure above ground, with ventilation adequate to prevent condensation.
 - 4. Comply with product manufacturer's written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.
 - 5. Protect stored products from damage and liquids from freezing.

1.8 PRODUCT WARRANTIES

- A. Warranties specified in other Sections will be in addition to, and run concurrent with, other warranties required by the Contract Documents. Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of Warranty obligations under requirements of the Contract Documents.
 - 1. Manufacturer's Warranty: Written warranty furnished by individual manufacturer for a particular product and specifically endorsed by manufacturer to the City of New York.
 - 2. Special Warranty: Written warranty required by the Contract Documents to provide specific rights for the City of New York.
- B. Special Warranties: Prepare a written document that contains appropriate terms and identification, ready for execution.
 - 1. Manufacturer's Standard Form: Modified to include Project-specific information and properly executed.
 - 2. Specified Form: When specified forms are included with the Specifications, prepare a written document using indicated form properly executed.
 - 3. See other Sections for specific content requirements and particular requirements for submitting special warranties.
- C. Submittal Time: Comply with requirements in Section 01 77 00 CLOSEOUT PROCEDURES.



PART 2 – PRODUCTS

2.1 PRODUCT SELECTION PROCEDURES

- A. General Product Requirements: Provide products that comply with the Contract Documents, are undamaged and, unless otherwise indicated, are new at time of installation.
 - 1. Descriptive, performance, and reference standard requirements in the Specifications establish required characteristics of products.
 - 2. Provide products complete with accessories, trim, finish, fasteners, and other items needed for a complete installation and indicated use and effect.
 - 3. Commissioner will review and approve products with warranties meeting the requirements of the Contract Documents.
 - 4. Where products are accompanied by the term "as selected," Commissioner will make selection.
- B. Or Approved Equal:
 - 1. Comply with requirements in "Comparable Products" Article to obtain approval for use of an unnamed product, or for use of a product by an unnamed Manufacturer, as designated by the term "Or approved equal".
 - 2. Submit additional documentation required by Commissioner, in order to establish equivalency of proposed products. Evaluation of "Or approved equal" product status is by the Commissioner, whose determination is final.
- C. Product Selection Procedures:
 - 1. Products: Where Specifications include a list of names of both manufacturers and products, provide one of the products listed that complies with requirements. Comparable products will be considered. Comply with requirements in "Comparable Products" Article for consideration of a product by an unnamed manufacturer. Products' listing is indicated by the following:
 - a. Products: Subject to compliance with requirements, provide one of the following:
 - 1) Manufacturer; Product designation
 - 2) Manufacturer; Product designation
 - 3) Manufacturer; Product designation
 - 4) Or approved equal
 - 2. Manufacturers: Where Specifications include a list of manufacturers' names, provide a product by one of the manufacturers listed. Comparable products from unnamed Manufacturers will be considered. Comply with requirements in "Comparable Products" Article for consideration of a product by an unnamed manufacturer. Manufacturer's listing is indicated by the following:
 - a. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1) Manufacturer
 - 2) Manufacturer
 - 3) Manufacturer
 - 4) Or approved equal



3. Basis-of-Design Product: Where Specifications name a basis-of-design product, provide the specified product, or a comparable product by one of the other named manufacturers. Drawings may indicate sizes, profiles, dimensions, and other characteristics that are based on the product named. Specifications indicate performance requirements and physical properties, durability and other special and required features that are based on the product named. Comply with requirements in "Comparable Products" Article for consideration of an unnamed product by one of the other named manufacturers. Basis-of-Design Product listing is indicated by the following:
 - a. Subject to compliance with requirements, provide [product indicated on Drawings] [manufacturer's name; product name or designation] or comparable product by one of the following:
 - 1) Manufacturer
 - 2) Manufacturer
 - 3) Or approved equal
4. Sole Source Product (Single Proprietary): Where Specifications name a single manufacturer and product, provide the named product. A Sole Source Product selection requires prior request by the Design Consultant and approval by the Commissioner for its inclusion in specifications. Sole Source Product is indicated by the following phrase listing:
 - a. Sole Source Product: Manufacturer's name and Product designation.
 - 1) No substitutions Permitted.
- D. Visual Matching Specification: Where Specifications require "match Commissioner's sample," provide a product that complies with requirements and matches Commissioner's sample. Commissioner's decision will be final on whether a proposed product matches.
- E. Visual Selection Specification: Where Specifications include the phrase "as selected by Commissioner from manufacturer's full range" or similar phrase, select a product that complies with requirements. Commissioner will select color, gloss, pattern, density, or texture from manufacturer's product line that includes both standard and premium items.

2.2 COMPARABLE PRODUCTS

- A. Conditions for Consideration of Comparable Products (Or Approved Equal): Commissioner will consider Contractor's request for comparable product when the following conditions are satisfied. If the following conditions are not satisfied, Commissioner may return requests without action, except to record noncompliance with these requirements:
- B. Evidence that proposed product does not require revisions to the Contract Documents, is consistent with the Contract Documents, will produce the indicated results, and is compatible with other portions of the Work. Detailed comparison of significant qualities of proposed product with those named in the Specifications. Significant product qualities include attributes such as type, function, in-service performance and physical properties, weight, dimension, durability, visual characteristics, and other specific features and requirements.
- C. Evidence that proposed product provides specified warranty.
- D. List of similar installations for completed projects with project names and addresses and names and addresses of architects and Owners, if requested.
- E. Samples, if requested.



**Department of
Design and
Construction**

Division 01 – DDC STANDARD GENERAL CONDITIONS
SINGLE CONTRACT PROJECTS
Issue Date: January 1, 2022

- F. Submittal Requirements: Approval by the Commissioner of Contractor's request for use of comparable product is not intended to satisfy other submittal requirements.
- G. Comply with all other specified product and submittal requirements.

PART 3 – EXECUTION (Not Used)

END OF SECTION 016000



**SECTION 01 73 00
EXECUTION**

PART 1 – GENERAL

1.1 RELATED DOCUMENTS:

- A. The following documents apply to all required work for the Project: (1) the Contract Drawings, (2) the Specifications, (3) the General Conditions, (4) the Addendum, and (5) the Contract [City of New York Standard Construction Contract].

1.2 SUMMARY:

- A. This Section includes general procedural requirements governing execution of the Work including without limitation the following:
 - 1. Delivery of Materials
 - 2. Contractor's Superintendent
 - 3. Surveys
 - 4. Borings
 - 5. Examination
 - 6. Environmental Assessment
 - 7. Preparation
 - 8. Deferred Construction
 - 9. Installation
 - 10. Permits
 - 11. Transportation
 - 12. Sleeves and Hangers
 - 13. Sleeve and Hanger Drawings
 - 14. Cutting and Patching
 - 15. Location of Partitions
 - 16. Furniture and Equipment
 - 17. Removal of Rubbish and Surplus Material
 - 18. Cleaning
 - 19. Security and Protection of Work Site
 - 20. Maintenance of Site and Adjoining Property
 - 21. Maintenance of Project Site
 - 22. Safety Precautions for Control Circuits
 - 23. Obstructions in Drainage Lines
 - 24. Payment for Allowances

1.3 RELATED SECTIONS: Include without limitation the following:

- A. Section 01 10 00 SUMMARY
- B. Section 01 31 00 PROJECT MANAGEMENT AND COORDINATION
- C. Section 01 33 00 SUBMITTAL PROCEDURES
- D. Section 01 74 19 CONSTRUCTION WASTE MANAGEMENT & DISPOSAL
- E. Section 01 77 00 CLOSEOUT PROCEDURES
- F. Section 01 78 39 CONTRACT RECORD DOCUMENTS



1.4 DEFINITIONS:

- A. Refer to Article 2 of the Contract for definition of terms, words and expressions used in the General Conditions not otherwise defined herein.

<u>Term</u>	<u>Definition</u>
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.

1.5 QUALITY ASSURANCE:

- A. Land Surveyor Qualifications: A professional land surveyor who is licensed in the State of New York and who is experienced in providing land-surveying services of the kind indicated.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 DELIVERY OF MATERIALS:

- A. Material Orders: The Contractor must furnish to the Commissioner a copy of each material order, indicating date of order and quantity of material, and must also notify the Commissioner when materials have been delivered to the Site and in what quantities.
- B. Ample Quantities: The Contractor must deliver materials in ample quantities to ensure the most prompt and uninterrupted progress of the Work so as to complete the Work within the Contract time.
- C. Containers: The manufacturer's containers must be delivered with unbroken seals and must bear proper labels.
- D. Deliveries: The Contractor must coordinate deliveries in order to avoid delaying or impeding the progress of the Work.
- E. Handling: The Contractor must provide equipment and personnel to handle products by methods to prevent soiling or damage.
1. Promptly inspect shipments to assure products comply with requirements, quantities are correct, and products are undamaged.
 2. Promptly return damaged shipments or incorrect orders to manufacturer.
 3. For materials or equipment to be reused or salvaged, use special care in removal, storage and reinstallation to insure proper function in completed Work.
- F. Storage: Store products in accordance with provisions of Article 3.1 of the Standard Construction Contract, and periodically inspect to assure that stored products are undamaged and are maintained under required conditions.
- G. Stacking: All materials must be properly stacked in convenient places adjacent to the Site, or where directed, and protected in a satisfactory manner. Stacked materials must be arranged so as to not interfere with visibility of traffic control devices.



- H. Overloading: If the Commissioner permits the storage of materials in any part of the Project area, they must be so stored as to cause no overloading.
- I. No Interference: If it becomes necessary to remove and restack materials to avoid impeding the progress of any part of the Work or interfering with the Work to be done by any trade subcontractor, the Contractor must remove and restack such materials at no additional cost to the City.

3.2 CONTRACTOR'S CONSTRUCTION SUPERINTENDENT:

- A. Contractor's Construction Superintendent: The Contractor must devote its time and personal attention to the Work and must employ and retain at the Project Site, from commencement until Final Acceptance, a Contractor's Construction Superintendent. The Contractor's Construction Superintendent must be registered with the New York City Department of Buildings (DOB) in compliance with the Construction Superintendent Rule of the City of New York, be competent and capable of maintaining proper supervision and care of the Work, and be acceptable to the Commissioner. The Construction Superintendent, in the absence of the Contractor, and irrespective of any superintendent or foreman employed by any subcontractor, must see that the instructions of the Commissioner are carried out.
- B. Replacement: The Contractor's Construction Superintendent on the job must not be changed or removed without the consent of the Commissioner.

REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 3.3

3.3 SURVEYS:

- A. Line and Grade: The City will establish a baseline and bench mark near the Site of the Work for use by the Contractor in connection with the performance of the Work.
- B. Responsibility: The Contractor must establish all other lines and elevations required for the Work and must be solely responsible for the accuracy thereof.
- C. Safeguard All Points: The Contractor must safeguard all points, stakes, grade marks and bench marks made or established by the Contractor on the Work. The Contractor must re-establish same if disturbed, and bear the entire expense of rectifying the Work if improperly installed due to not maintaining, protecting or removing without authorization from the Commissioner such established points, stakes, or marks.
- D. City Monuments and Markers: No Work must be performed near City monuments or markers so as to disturb them until the said monuments or markers have been referenced or reset or otherwise disposed of by the relevant Agency or party who installed them.
- E. Foundations: The Contractor must furnish certification from a licensed Surveyor that all portions of the foundation Work are located in accordance with the Contract Drawings and at the elevations required thereby. This certification must show the actual locations and the actual elevations of all the Work in relation to the locations and elevations shown on the Contract Drawings, including, but not restricted to the following:
 - 1. The locations and elevations of all piles, if any.
 - 2. Elevations of tops of all spread footings, tops of pile caps, and tops of all foundation walls, elevator pit walls and ramp walls.
 - 3. Location of all footing centers and pier centers including those for exterior wall columns.
 - 4. Location of all foundation walls including wall columns, elevator pit walls and ramp walls.
- F. Wall Lines: After the first courses of masonry or stone have been laid, the Contractor must establish the permanent lines of exterior walls. The Contractor must promptly furnish certification from a licensed Surveyor in the form of signed original drawings showing the exact location of such wall lines of all portions



of all structures. Except at its own risk, the Contractor must not proceed further with the erection of walls until the Surveyor's certification has been submitted and verified for correct location of wall lines.

- G. Surveyor: The Surveyor selected for any of the purposes mentioned in Paragraph E and Paragraph F above, and Paragraph I below, must be a land Surveyor licensed in the State of New York and must be subject to the approval of the Commissioner. The Surveyor must not be a regular employee of the Contractor, nor must the Surveyor have any interest in the Contract. The Surveyor's certification must represent an independent and disinterested verification of all layout. The Surveyor must report to the Department of Design and Construction's (DDC) Resident Engineer each time upon arrival to and departure from the Site and review with the Resident Engineer the data required for the Project.
- H. Final Certification: Final certification must be submitted upon completion of the Work or upon completion of any subdivision of the Work as directed by the Commissioner. Any exceptions or deviations from the Contract Drawings must be noted on the final certificate and must include any maps, plates, notes, pertinent documents and data necessary, in the opinion of the Commissioner, to constitute a full and complete report.
- I. Final Survey: The Contractor must submit to DDC for submission to DOB a final Survey by the licensed Surveyor showing the location of the new Work, before completion of the Work. This Survey must show the location of the first tier of beams or of the first floor; the finish grades of the open spaces on the plot; the established curb level and the location of all other Work on the plan, together with the location and boundaries of the lot or plot upon which the Work is constructed, curb cuts, all yard dimensions, etc.

REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 3.4

3.4 BORINGS:

- A. The work of this article must be the responsibility of the Contractor unless otherwise indicated.
- B. Reference Drawings: The boring drawings as listed on the title sheet are for information to the bidder and are to be used under the conditions as follows:
 - 1. Boring logs: shown on the boring drawings, record information obtained under engineering supervision in the course of exploration carried out by or under the direction of DDC at the Site.
 - 2. Soils and Rock Samples: All inferences are drawn from the indications observed as made by engineering and scientific personnel. All such inferences and all records of the Work, including soil samples and rock cores, if any, are available to bidders for inspection.
 - 3. Certification of Samples: The City certifies that the Work was carried out as stated, and that the soil samples and rock cores were actually taken from the site at the times, places, and in the manner indicated on the boring drawings. The samples are available for inspection in DDC's Subsurface Exploration Unit.
 - 4. Bidder's Responsibility: The bidder, however, is responsible for any conclusions to be drawn from the Work. If the bidder accepts those of the City, it must do so at its own risk. If the bidder prefers not to assume such risk, the bidder is under the obligation of employing its own experts to analyze the available information and must be responsible for any consequences of acting on their conclusions.
 - 5. Continuity Not Guarantee: The City does not guarantee continuity of conditions shown at actual boring locations over the entire Site. Where possible, borings are located to avoid all obstructions and previous construction which can be found by inspection of the surface. The bidder is required to estimate the influence of such features from its own inspection of the Site.



3.5 EXAMINATION:

- A. Existing Conditions: The existence and location of Site improvements, utilities, and other construction indicated as existing are not guaranteed. Before beginning the Work, the Contractor must investigate and verify the existence and location of mechanical and electrical systems and other construction affecting the Work.
 - 1. Before construction, the Contractor must verify the location and points of connection of utility services.
- B. Existing Utilities: The existence and location of underground utilities and other construction indicated as existing are not guaranteed. Before beginning Site Work, the Contractor must investigate and verify the existence and location of underground utilities and other construction affecting the Work.
 - 1. Before construction, the Contractor must verify the location and invert elevation at points of connection of sanitary sewer, storm sewer, water-service piping, and underground electrical services.
 - 2. The Contractor must furnish location data for Work related to the Project that must be performed by public utilities serving the Project Site.
- C. Acceptance of Conditions: Examine all existing substrates, areas, and conditions, with the subcontractor responsible for installation or application, for compliance with requirements for installation tolerances and other conditions affecting performance. The Contractor must record observations of these examinations:
 - 1. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
 - 2. Examine roughing-in for mechanical and electrical systems to verify actual locations of connections before equipment and fixture installation.
 - 3. Examine walls, floors, and roofs for suitable conditions where products and systems are to be installed.Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.

3.6 ENVIRONMENTAL ASSESSMENTS:

- A. City Responsibilities: An Environmental Assessment and survey is performed by DDC and its findings are included in the Contract Documents. In accordance with the NYC Administrative Code Title 15 Chapter 1, an asbestos survey is required to be performed by an Asbestos Investigator certified by the NYC Department of Environmental Protection (DEP) to identify the presence of asbestos containing material (ACM) prior to any alteration, renovation, or demolition activity. The findings of such survey are required for the submission of approvals and permits issued by DOB. When the findings indicate that asbestos containing material is present and will be disturbed during the alteration, renovation, or demolition activity, then abatement design specifications will be incorporated into the Contract Documents. The Contractor must comply with all federal, state and local asbestos regulations affecting the work for this Contract.
- B. Contractor Responsibility: The Contractor must comply with all federal, state and local environmental regulations, including without limitation, United States Environmental Protection Agency (EPA) and Occupational Safety and Health Administration (OSHA) regulations, which require the Contractor to assess if lead-based paint will be disturbed during the Work in order to protect the Contractor's workers and the building occupants from migration of lead dust into the air. The Contractor must comply with all federal, state and local environmental waste disposal regulations which may be required during the Work. The Contractor is required to hire licensed abatement and disposal companies for the requisite Work.

3.7 PREPARATION:

- A. Field Measurements: The Contractor must verify all dimensions and conditions on the Site so that all Work will properly join the existing conditions.



- B. Before commencing the Work, the Contractor must examine all adjoining materials on which its Work is in any way dependent on good workmanship in accordance to the intent of the Specifications and the Contract Drawings. The Contractor must report to the Commissioner any condition that will prevent it from performing Work that conforms to the required Specifications.
- C. Existing Utility Information: The Contractor must furnish information to the Commissioner that is necessary to adjust, move, or relocate existing utility structures, utility poles, lines, services, or other utility appurtenances located in or affected by construction. Additionally, the Contractor must coordinate with authorities having jurisdiction.
- D. Space Requirements: The Contractor must verify space requirements and dimensions of items shown diagrammatically on the Contract Drawings.

3.8 DEFERRED CONSTRUCTION:

- A. In order to permit the installation of any item or items of equipment required to be furnished and installed within the time allowed for completing the Work of the Contract, the Contractor must defer construction Work limited to adequate areas as approved and certified by the Commissioner.
- B. The Contractor must confer with the affected trade subcontractors and ascertain arrangements, time, and facilities necessary to be made by the Contractor in order to execute the provisions specified herein.

3.9 INSTALLATION:

- A. General: The Contractor must locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.
 - 1. Make vertical Work plumb and make horizontal Work level.
 - 2. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.
 - 3. Conceal pipes, ducts, and wiring in finished areas, unless otherwise indicated on the Contract Drawings.
- B. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.
- C. Install products at the time and under conditions that will ensure the best possible results. Maintain conditions required for product performance until Substantial Completion.
- D. Conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.
- E. Tools and Equipment: Do not use tools or equipment that produce harmful noise levels.
- F. Templates: Obtain and distribute to the parties involved templates for Work specified to be factory-prepared and field-installed. Check shop drawings of other work and work of trade subcontractors to confirm that adequate provisions are made for locating and installing products to comply with indicated requirements.
- G. Anchors and Fasteners: Provide anchors and fasteners as required to anchor each component securely in place, accurately located and aligned with other portions of the Work.
 - 1. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by the Design Consultant.
 - 2. Allow for building movement, including thermal expansion and contraction.
 - 3. Coordinate installation of anchorages. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral



anchors that are to be embedded in concrete or masonry. Deliver such items to Project Site in time for installation.

- H. Joints: Make joints of uniform width. Where joint locations in exposed Work are not indicated, arrange joints for the best visual effect. Fit exposed connections together to form hairline joints.
- I. Hazardous Materials: Use products, cleaners, and installation materials that are not considered hazardous.

3.10 PERMITS:

- A. The Contractor must comply with all local, state and federal laws, rules, and regulations affecting the Work of this Project, including, without limitation, (1) obtaining all necessary permits for the performance of the Work prior to commencement thereof, and (2) complying with all requirements for the disposal of demolition and/or construction debris, waste, etc., including disposal in City landfills. The Contractor must be responsible for all costs in connection with such regulatory compliance, unless otherwise specified in the Contract.

3.11 TRANSPORTATION:

- A. Availability: The Contractor must determine the availability of transportation facilities and dockage for the use of its employees, equipment, and materials, and the conditions under which such use will be permitted.
- B. Costs: If transportation facilities and dockage are available and are permitted to be used by the governmental agency having jurisdiction, the Contractor must pay all necessary costs and expenses, and abide by all rules and regulations promulgated in connection therewith.
- C. Vehicles: With respect to the use of vehicles on highways and bridges, the Contractor's attention is directed to the limitations set forth in the Rules of the City of New York, Title 34, Chapter 4, Section 4-15.
- D. Continued Use: It is understood that the Commissioner makes no warranty as to the continued use by the Contractor of such facilities.

REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 3.12

3.12 SLEEVES AND HANGERS:

- A. Coordinate with Progress Schedule: The Contractor must promptly furnish and install conduits, outlets, piping sleeves, boxes, inserts and all other materials and equipment that is to be built into the Work in conformity with the requirements of the Project.
- B. Cooperation of Subcontractors: All subcontractors must fully cooperate with each other in connection with the performance of the above Work as "cutting in" new work is neither contemplated nor will it be tolerated.
- C. Timeliness: To avoid delay, in the event that timely delivery of sleeves and other materials cannot be made, the Contractor may arrange to have boxes or other forms set at the locations where the piping or other material is to pass through or into the slabs, walls or other Work. Upon the subsequent installation of the sleeves or other material, the Contractor must fill around them with materials as required by the Contract. The necessary expenditures incurred for the boxing out and filling in must be borne by the Contractor.
- D. Inserts: The Contractor is to install strip inserts four (4) foot on center and perpendicular to beams in ceiling slabs of boiler, machine, and mechanical equipment rooms. Inserts are to be installed for strippable concrete slabs only.

REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 3.13

3.13 SLEEVE AND PENETRATION DRAWINGS:

- A. As soon as practicable after the commencement of Work, and when the order in which concrete for the first slabs, walls, etc. to be poured is determined, the Contractor must submit to DDC a sketch indicating the location and size of all penetrations for sleeves, ducts, etc. which will be required to accommodate the mechanical trades in order to determine if such penetrations will materially weaken the Project's structure.



The sketch must be stamped and returned if approved and/or comments will be transmitted. The Contractor must continue to submit sketches as the pouring schedule and the concrete Work progresses and until approvals for the penetration sketches have been given. The Contractor must not predicate its layout Work on unapproved sketches.

3.14 CUTTING AND PATCHING:

- A. Responsibility: The Contractor must do all cutting, patching, and restoration required by its Work, unless otherwise particularly specified in the Specifications.
- B. Restore Work: The Contractor must restore any Work damaged during the performance of the Work.
- C. Competent Workers: All restoration Work must be done to the satisfaction of the Commissioner by competent workers skilled in the trade required by such restoration. If, in the judgment of the Commissioner, workers engaged in restoration Work are incompetent, they must be replaced immediately by competent workers.
- D. Structural Elements: Do not cut and patch structural elements without the prior approval, in writing, of the Resident Engineer.
- E. Operational Elements: Do not cut and patch operating elements and related components.
- F. Visual Requirements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch construction exposed on the exterior or in occupied spaces in a manner that would, in the Commissioner's opinion, reduce the building's aesthetic qualities. The Contractor must remove and replace construction that has been cut and patched in a visually unsatisfactory manner.
- G. Existing Warranties: The Contractor must remove, replace, patch, and repair materials and surfaces cut or damaged during cutting and patching operations, by methods and with materials so as not to void existing warranties.
- H. Removals: The Contractor must remove from the premises all demolished materials of every nature or description resulting from cutting, patching, and restoration work, in accordance with the requirements hereinafter stipulated under Sub-Section 3.17 herein and as further required in Section 01 74 19, CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL.

REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 3.15

3.15 LOCATION OF PARTITIONS:

- A. Within three (3) weeks after the concrete slabs have been poured on each floor level, the Contractor must immediately locate accurately all of the partitions, including the door openings, on the floor slabs in a manner approved by the Resident Engineer.

3.16 FURNITURE AND EQUIPMENT:

- A. Responsibility: The Contractor is responsible for moving all loose furniture and/or equipment in all areas where the location of such furniture and/or equipment interferes with the proper performance of its Work.
- B. Protection: All such furniture and/or equipment must be adequately protected with dust cloths and returned to their original locations when directed to do so by the Resident Engineer.

3.17 REMOVAL OF RUBBISH AND SURPLUS MATERIALS:

- A. Of the waste that is generated during demolition, as many of the waste materials as economically feasible must be reused, salvaged, or recycled. Waste disposal in landfills must be minimized. Comply with requirements of Section 01 74 19, CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL.



- B. Rubbish: Rubbish must not be thrown from the windows or other parts of the Project. Mason's rubbish, dirt and other dust-producing material must be wetted down periodically.
- C. Location: The Contractor must clean the Project Site and Work area daily, sweep up, and deposit at a location designated on each floor, all of its rubbish, debris, and waste materials as it accumulates or more frequently when directed by the Resident Engineer. Wood crating must be broken up, neatly bundled, tied, and stacked ready for removal and be deposited at a location designated on each floor.
 - 1. Comply with requirements in NYC Fire Department for removal of combustible waste materials and debris.
 - 2. Do not hold materials more than seven (7) Days during normal weather or three (3) Days if the temperature is expected to rise above 80 degrees F (27 degrees C).
 - 3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.
- D. Laborers: Since the Contractor is responsible for the removal of all rubbish, etc., from the Site, the Contractor must employ and keep engaged for this purpose an adequate number of laborers.
- E. Surplus Materials: The Contractor must remove from the Site all surplus materials when there is no further use for same.
- F. Tools and Materials: At the conclusion of the Work, all erection plant, tools, temporary structures and materials belonging to the Contractor must be promptly removed.
- G. Waste Disposal: Burying or burning waste materials on-site will not be permitted. Washing waste materials down sewers or into waterways will not be permitted.

3.18 CLEANING:

- A. The Contractor must thoroughly clean all equipment and materials furnished and installed, and must deliver such materials and equipment undamaged in a clean and new appearing condition up to date of Final Acceptance.
- B. Site: Maintain Project Site free of waste materials and debris.
- C. Installed Work: Keep installed Work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of the product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.
- D. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.
- E. Exposed Surfaces in Finished Areas: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration up to date of Final Acceptance.
- F. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration up to date of Final Acceptance.

3.19 SECURITY AND PROTECTION OF WORK SITE:

- A. Provide protection of installed Work, including appropriate protective coverings, and maintain conditions that ensure installed Work is without damage or deterioration up to date of Final Acceptance.
- B. Comply with manufacturer's written instructions for temperature and relative humidity.
- C. Secure and protect Work and Work Site against damage, loss, injury, theft and/or vandalism.
- D. Maintain daily sign-in sheets of workers and visitors and make the sheets available to the Commissioner.



3.20 MAINTENANCE OF SITE AND ADJOINING PROPERTY:

- A. The Contractor must take over and maintain the Project Site, after order to start Work.
- B. The Contractor must be responsible for the safety of the adjoining property, including sidewalks, paving, fences, sewers, water, gas, electric and other mains, pipes and conduits etc. until the date of Final Acceptance. The Contractor must, at its own expense, except as otherwise specified, protect same and maintain them in at least as good a condition as that in which the Contractor finds them.
- C. All pavements, sidewalks, roads and approaches to fire hydrants must be kept clear at all times, maintained and repaired to serviceable condition with materials to match existing.
- D. Provide and keep in good repair all bridging and decking necessary to maintain vehicular and pedestrian traffic.
- E. The Contractor must also remove all snow and ice as it accumulates on the sidewalks within the Contract Limits Lines.

3.21 MAINTENANCE OF PROJECT SITE:

- A. The Contractor must take over and maintain all Project areas, after order to start Work.
- B. Until the date of Final Acceptance, the Contractor must be responsible for the safety of all Project areas, including water, gas, electric and other mains and pipes and conduits and must, at the Contractor's own expense, except as otherwise specified, protect same and maintain them in at least as good condition as that in which the Contractor finds them.
- C. All pavements, sidewalks, roads and approaches to fire hydrants must be kept clear at all times, maintained, and if damaged, repaired to serviceable conditions with materials to match existing.
- D. The Contractor must keep the space for the Resident Engineer in a clean condition.

3.22 SAFETY PRECAUTIONS FOR CONTROL CIRCUITS:

- A. Control circuits, the failure of which will cause a hazard to life and property, must comply with DOB Bureau of Electrical Control requirements.

3.23 OBSTRUCTIONS IN DRAINAGE LINES:

- A. The Contractor must be responsible for all obstructions occurring in all drainage lines, fittings, and fixtures after the installations and cleaning of these drainage lines, fittings, and fixtures, as certified by the Resident Engineer. Roof drains must be kept clear of any and all debris. Any stoppage must be repaired immediately at the expense of the Contractor.

3.24 PAYMENT OF ALLOWANCES:

- A. Unless otherwise called for in the Specifications, the following requirements apply to the payment and execution of Allowances established for the Contractor:
 - 1. Allowances are to be utilized when ordered and authorized in writing by the Commissioner.
 - 2. The Contractor will be paid on a time and materials (T&M) basis under the Allowance. Labor will be paid based on the Contractor's Certified Payrolls, all other expenses will be paid on an invoice basis. A markup of twelve percent (12%) for overhead and ten percent (10%) for profit will be allowed, except that no markup will be allowed on Payroll Taxes or on the premium portion of overtime pay or on sales and personal property taxes.

END OF SECTION 01 73 00



**SECTION 01 74 19
CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL**

PART I – GENERAL

1.1 RELATED DOCUMENTS:

- A. The following documents apply to all required work for the Project: (1) the Contract Drawings, (2) the Specifications, (3) the General Conditions, (4) the Addendum, and (5) the Contract [City of New York Standard Construction Contract].

1.2 SUMMARY:

- A. This section includes administrative and procedural requirements for the management and disposal of construction waste and includes the following requirements:
 - 1. Waste Management Goals
 - 2. Waste Management Plan
 - 3. Progress Reports
 - 4. Progress Meetings
 - 5. Management Plan Implementation
- B. This section includes:
 - 1. Definitions
 - 2. Waste Management Performance Requirements
 - 3. Reference Resources
 - 4. Submittals
 - 5. Quality Assurance
 - 6. Waste Plan Implementation
 - 7. Additional Demolition and Salvage Requirements
 - 8. Disposal

1.3 RELATED SECTIONS: Include without limitation the following:

- A. Section 01 10 00 SUMMARY
- B. Section 01 31 00 PROJECT MANAGEMENT AND COORDINATION
- C. Section 01 32 00 CONSTRUCTION PROGRESS DOCUMENTATION
- D. Section 01 73 00 EXECUTION
- E. Section 01 77 00 CLOSEOUT PROCEDURES
- F. Section 01 78 39 CONTRACT RECORD DOCUMENTS
- G. Refer to the Addendum to identify whether this Project is designed to comply with a Certification Level according to the U.S. Green Building Council's LEED Rating System, as specified in Section 01 81 13.03 "SUSTAINABLE DESIGN REQUIREMENTS FOR LEED v3 BUILDINGS" or Section 01 81 13.04 "SUSTAINABLE DESIGN REQUIREMENTS FOR LEED v4 BUILDINGS".

1.4 DEFINITIONS:

- A. Refer to Article 2 of the Contract for definition of terms, words and expressions used in the General Conditions not otherwise defined herein.



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<u>Term</u>	<u>Definition</u>
Alternative Daily Cover (ADC)	Material other than earthen material placed on the surface of the active face of a municipal solid Waste landfill at the end of each Work Day to control vectors, fires, odors, blowing litter and scavenging.
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.
Clean	Untreated and unpainted; not contaminated with oils, solvents, caulk or the like.
Construction and Demolition (C&D) Waste	Solid Wastes typically including building materials, trash debris and rubble resulting from remodeling, repair and demolition operations. Hazardous materials and land clearing Waste are not included.
Diversion from Landfill	Material removal from the Site for Recycling, Reuse or Salvage that might otherwise be sent to a landfill.
Off-site Sorting	<p>Material types that are combined on the project site and hauled away for sorting. Measured weights only. Approximations of weight or volume based on visual inspection are not acceptable.</p> <ul style="list-style-type: none"> a. Off-site Sorting Method 1: Diversion Rate derived from the weight of the individual diverted material type divided by the weight of the commingled waste. Individual diverted material types handled through this sorting method are each counted as an individual diverted material type. b. Off-site Sorting Method 2: Diversion Rate derived from the waste sorting facility average diversion rate, multiplied by the weight of the commingled waste. All diverted materials handled through this sorting method are counted as a single diverted material type.
On-site Sorting	<p>Material types that have been sorted in segregated containers or project areas for removal as segregated diverted material types. Measured weights only. Approximations of weight or volume based on visual inspection are not acceptable.</p> <ul style="list-style-type: none"> a. On-site Sorting: Diversion Rate derived from the weight of the diverted material type. Material diverted through this sorting method are each counted as an individual diverted material type.
Recyclable	The ability of a product or material to be recovered at the end of its life cycle and remanufactured into a new product.
Recycle (recycling)	To sort, separate, process, treat or reconstitute solid Waste and other discarded materials for the purpose of redirecting such materials into the manufacture of useful products. Recycling does not include burning, incinerating or thermally destroying Waste.
Return	To give back Reusable items or unused products to vendors.



Reuse	To reuse excess or discarded construction material in some manner on the Project Site.
Salvage	To remove a Waste material from the Project Site for resale or reuse.
Waste	Extra material or material that has reached the end of its useful life in its intended use. Waste includes Salvageable, Returnable, Recyclable and Reusable material.
Waste Management Plan	A Project-related plan for the collection, transportation and disposal of Waste generated at the construction Site. The purpose of the plan is to ultimately reduce the amount of material becoming landfill.
Waste-to-Energy	The conversion of non-Recyclable Waste materials into usable heat, electricity or fuel through a variety of processes, including combustion, gasification, pyrolyzation, anaerobic digestion and landfill gas recovery.

1.5 WASTE MANAGEMENT PERFORMANCE REQUIREMENTS:

- A. The City of New York has established that this Project must generate the least amount of Waste possible and employ processes that ensure the generation of as little Waste as possible due to error, inaccurate planning, breakage, mishandling, contamination, or other factors.
- B. Of the Waste that is generated during demolition, as many of the Waste materials as economically feasible, and as stated here, must be Reused, Salvaged, or Recycled. Waste disposal in landfills must be minimized.

REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 1.5 C

- C. LEED CERTIFICATION: The City of New York will seek Leadership in Energy and Environmental Design (LEED) certification for this Project as indicated in the Addendum to the General Conditions from the U.S. Green Building Council. The documentation required here will be used for this purpose. LEED awards points for a variety of sustainable design measures on a project, one of which is the Reuse and Recycling of project Waste.
- D. DIVERSION REQUIREMENTS. With the exception of LEED v4 projects with demolition ADC Waste, a minimum of seventy-five percent (75%) of total Project demolition and construction Waste (by weight) must be diverted from landfill through at least four (4) diverted material types. LEED v4 projects with demolition ADC Waste must divert a minimum of fifty percent (50%) of total Project demolition and construction Waste (by weight) from landfill through at least three (3) diverted material types. The following Waste categories are likely candidates to be included in the diversion plan as applicable for this Project:
 - 1. Concrete;
 - 2. Bricks;
 - 3. Concrete masonry units (CMU);
 - 4. Asphalt;
 - 5. Metals (e.g. banding, stud trim, ceiling grid, ductwork, piping, rebar, roofing, other trim, steel, iron, galvanized, stainless steel, aluminum, copper, zinc, brass, bronze);
 - 6. Clean dimensional wood;



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7. Carpet and pad;
 8. Drywall;
 9. Ceiling tiles;
 10. Cardboard, paper and packaging; and
 11. Reuse items indicated on the Contract Drawings and/or elsewhere in the Specification.
- E. All fluorescent lamps, High Intensity Discharge lamps and mercury-containing thermostats removed from the Site must be Recycled. Do not use bulb crusher on Site.
- F. Recycling on the job, subject to the Commissioner's approval, is encouraged on the Site itself, such as the crushing and reuse of removed sound concrete and stone. Include these categories in the Waste Management Plan.
- G. Land-clearing debris is not considered construction, demolition or renovation Waste and is not to be included as contribution to Waste diversion.
- H. A minimum of five (5) material types, both structural and nonstructural, are to be identified in the Construction Waste Management Plan for diversion.
- I. For LEED v4 projects, material to be used as ADC does not qualify as material diverted from disposal.

1.6 REFERENCES, RESOURCES:

- A. DDC encourages its Contractors to seek information from websites and experts in Salvage or Recycling in order to minimize disposal costs. There are numerous opportunities to sell, Salvage, or to donate materials and accrue tax benefits (which would accrue to the Contractor responsible for removal); there are also outlets that will pick up, and in some cases, buy Recyclable materials. Examples of information resources are as follows:
1. A standard Construction and Demolition (C&D) Waste Management Log form is available through DDC's Sustainable Design website:
<https://www1.nyc.gov/assets/ddc/downloads/Sustainable/forms-local-law-86/waste-tracking-form.pdf>.
 2. Web Resources (information only; no warranty or endorsement is implied):
 - a. www1.nyc.gov/assets/donate/site/ – Website of donateNYC, a network of nonprofit organizations in New York City that accept and distribute second-hand and surplus goods.
 - b. www.bignyc.org – Website of Build It Green NYC, a non-profit outlet for Salvaged and surplus building materials.
 - c. www.usgbc.org – Website of the United States Green Building Council, with a description of the LEED certification process and requirements for C&D Waste Recycling.
 - d. www.epa.gov/smm/sustainable-management-construction-and-demolition-materials – Website of the U.S. Environmental Protection Agency (EPA) that discusses C&D Waste issues, and links to other resources.
 3. Waste-to-Energy Facilities that need to comply with European Standard (EN) for Waste management and emissions into air, soil, surface water and groundwater:
 - a. www.ec.europa.eu/environment/waste/framework/index.htm – European Commission Waste Framework Directive 2008/98/EC.
 - b. <https://eur-lex.europa.eu/homepage.html> - European Commission Waste

CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

01 74 19 - 4



Incineration Directive 2000/76/EC.

- c. www.cen.eu/cen/Products – EN Standards 303-1, 303-2, 303-3, 303-4, 303-5, 303-6, 303-7.

1.7 SUBMITTALS:

- A. The Contractor must refer to Section 01 33 00 SUBMITTAL PROCEDURES for submittal requirements.
- B. The Contractor must be responsible for the development and implementation of a Waste Management Plan for the Project. The Contractor's subcontractors must assist in the development of that Plan, and collect and deposit their Waste and Recyclable materials in accordance with the approved Plan.
- C. Draft Waste Management Plan: Within fifteen (15) Days after receipt of the Notice to Proceed (NTP), or prior to any Waste removal, whichever occurs sooner, the Contractor must submit to the Commissioner a Draft Waste Management Plan. Include separate sections for C&D Waste. The Plan must demonstrate how the performance goals will be met, and contain the following:
 - 1. List of material types targeted for Reuse, Salvage, or Recycling, and names, addresses, and phone numbers of receiving facilities/companies that will be purchasing or accepting each material. Each material listed is to include estimated amount in tons and percentage of overall construction waste of each of the material streams.
 - 2. Estimation of the percentage of overall construction waste that will be sent to landfill.
 - 3. Description of on-Site and/or off-Site sorting methods for all materials to be removed from Site. Off-site sorting methods must be categorized as Off-site Sorting Method 1 or Off-site Sorting Method 2.
 - 4. If mixed C&D Waste is to be sorted off-Site, provide a letter from the processor stating the average percentage of mixed C&D Waste they Recycle. Waste processor's average percentage of mixed C&D waste must not include Alternative Daily Cover as a recycled material for LEED v4 projects.
 - 5. Landfill information: Names of landfills where non-Recyclable/reusable/salvageable Waste will be disposed, and list of applicable tipping fees.
 - 6. Material handling procedures: Specify whether materials must be separated or commingled and describe the planned diversion strategies. Describe expected amount of each material type, where materials must be taken and how the Recycling facility must process the material. Provide a description of the means by which any Recyclable, Salvaged, or Reused materials will be protected from contamination and collected in a manner that will meet the requirements for acceptance by the designated Recycling processors.
 - 7. Transportation: A description of the means of transportation and destination for Recycled materials.
 - 8. Meetings: Regular meetings must be held monthly, or as directed by the Commissioner, and the Contractor must provide a description of these meetings to address Waste management.
 - 9. Sample spreadsheet and description of how the implementation of the Plan will be documented and submitted on a monthly basis.
- D. Final Waste Management Plan: Within fifteen (15) Days of Commissioner's approval of the Draft Waste Management Plan, the Contractor must submit a Final Waste Management Plan.



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- E. Progress Reports: The Contractor must submit a monthly Waste Management Progress Report, containing the following information:
1. Project title, name of company completing report, and dates of period covered by the report.
 2. Report on the disposal of all Project Site Waste. A DDC C&D Waste Management Log form is included at the end of this section. For each shipment of material removed from the Site, provide the following:
 - a. Date and ticket number of removal;
 - b. Identity of material hauler;
 - c. Material type;
 - d. Waste sorting method;
 - e. Total quantity of Waste, in tons/cubic yards, by type;
 - f. Quantity of Waste Salvaged, Recycled and/or Reused, by type;
 - g. Total quantity of Waste diverted from landfill (Recycled, Salvaged, Reused) as a percentage of total Waste; and
 - h. Recipient of each material type.
 3. Provide monthly and cumulative Project totals of Waste, quantity diverted, and percentage diverted.
 4. Note that the unit of measurement may be either tons or cubic yards but must be consistent for all shipments and all materials throughout the Project. Reports with inconsistent or mixed units will not be reviewed and will be Returned for re-submission.
 5. Include legible copies of on-Site logs, weight tickets and receipts. Receipts must be from charitable organizations, Recycling and/or disposal site operators who can legally accept the materials for the purpose of reuse, Recycling or disposal. Contractor must save such original documents for the life of the Project plus seven (7) years.
- F. LEED Submittal: For LEED-designated projects, submit final LEED construction Waste report signed by the Contractor, tabulating total Waste material, quantities diverted and means by which it is diverted, and statement that requirements for the credit have been met. Waste report must include:
1. At least four (4) material streams for diverted materials;
 2. Documentation of Recycling rates for commingled facilities; and
 3. For Waste-to-Energy strategy, submit documentation of facility adherence to relevant EN standards, and justification for the strategy.
- G. Refrigerant Recovery: Where refrigerant is recovered, submit statement of refrigerant recovery, which must include:
1. Name, address, qualification data and signature of the refrigerant recovery technician responsible for recovering refrigerant;
 2. Statement that all refrigerant that was present was recovered and that recovery was performed according to EPA regulations; and
 3. Date refrigerant was recovered.



1.8 QUALITY ASSURANCE:

- A. The Contractor must designate a Construction Waste Management Representative to ensure compliance with this section. The Representative must be present at the Project Site full-time and for the duration of the Project.
- B. Refrigerant Recovery Technician Qualifications: Certified by EPA-approved certification program.
- C. Regulatory Requirements: Comply with hauling and disposal regulations of authorities having jurisdiction.
- D. Waste Management Plans, documentation, and implementation must be discussed at the following meetings:
 - 1. Pre-demolition kick-off meeting;
 - 2. Pre-construction kick-off meeting;
 - 3. Regular job-site meetings; and
 - 4. Contractor toolbox meetings.
- E. For LEED v4 projects, Waste-to-Energy Facilities: Comply with EN standards for Waste management and emissions into air, soil, surface water, and groundwater.

PART II – PRODUCTS (Not Used)

PART III – EXECUTION

3.1 WASTE PLAN IMPLEMENTATION:

- A. Prior to the demolition and construction start, the Contractor must implement the Waste Management Plan, coordinate the Plan with all affected trades, and designate one individual as the Construction Waste Management Representative. The Representative will be responsible for communicating the progress of the Plan with the Commissioner on a regular basis and for assembling the required LEED documentation.
- B. The Contractor must be responsible for the provision of containers and the removal of all Waste, non-Returned surplus materials and rubbish from the Site in accordance with the approved Waste Management Plan. The Contractor must oversee and document the results of the Plan. Monies received for Salvaged materials must remain with the Contractor, except the monies for those items specifically identified elsewhere in the specifications or indicated on the Contract Drawings as belonging to others.
- C. Responsibilities of subcontractors: Each subcontractor must be responsible for collecting its Waste, non-Returned surplus materials and rubbish, in accordance with the Waste Management Plan.
- D. Distribution: The Contractor must distribute copies of the Waste Management Plan to each subcontractor, Resident Engineer, Construction Manager, and the Commissioner.
- E. Instruction: The Contractor must provide on-Site instruction of proper Waste management procedures to be used by all parties at appropriate stages of the Project.
- F. Procedures: Conduct Waste management operations to ensure minimum interference with Site vegetation, roads, streets, walkways and other adjacent, occupied, and used facilities. The waste management operations include, but are not limited to:
 - 1. Collect commingled Waste and/or separate all Recyclable Waste in accordance with the Plan. Specific areas on the Project Site are to be designated, and appropriate containers and bins clearly marked with acceptable and unacceptable materials.
 - 2. Inspect containers and bins for contamination and remove contaminated materials if found. Comply with requirements in the following General Conditions sections for controlling dust



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and dirt, environmental protection, and noise control: Section 01 81 19 - INDOOR AIR QUALITY REQUIREMENTS FOR LEED BUILDINGS, Section 01 81 13.03 - SUSTAINABLE DESIGN REQUIREMENTS FOR LEED v3 BUILDINGS or Section 01 81 13.04 - SUSTAINABLE DESIGN REQUIREMENTS FOR LEED v4 BUILDINGS, Section 01 10 00 – SUMMARY, Section 01 35 26 - SAFETY REQUIREMENTS PROCEDURES, Section 01 50 00 - TEMPORARY FACILITIES, SERVICES AND CONTROLS, and Section 01 73 00 – EXECUTION..

3.2 ADDITIONAL DEMOLITION AND SALVAGE REQUIREMENTS:

- A. Demolition and Salvage of additional items indicated in other sections of the Project Specifications require special attention as part of the overall seventy-five percent (75%) Diversion from Landfill. Specific requirements for special attention are designated in other sections of the Project Specifications.

3.3 DISPOSAL:

- A. General: Except for items or material to be Salvaged, Recycled, or otherwise Reused, remove Waste material from the Project Site and legally dispose of them in a manner acceptable to authorities having jurisdiction.
 - 1. Except as otherwise specified, do not allow Waste materials that are to be disposed of to accumulate on Site.
 - 2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
- B. Burning: Do not burn Waste materials.
- C. Disposal: Transport Waste materials off Project Site and legally dispose of them.

END OF SECTION 01 74 19



Project Name: _____
Project I.D.: _____

Contractor: _____
Prepared by: _____
For Month: _____

Notes:

1. Volume (cubic yards) may be used instead of weight if used for ALL amounts and ALL materials.
 2. Includes concrete; bricks; concrete masonry units (CMU); asphalt; metals; clean dimensional wood; carpet and pad; drywall; ceiling tiles; cardboard, paper, and packaging; and any other Reuse items indicated on the Contract Drawings and/or elsewhere in the Specifications.
 3. Excluded material includes soil or land clearing debris and for LEED v4 projects, Alternative Daily Cover (ADC) such as screen fines and 6" minus.
 4. Diverted material includes Recycled and Reused material diverted from landfill. Recycled material is reprocessed into new products. Reused material is reclaimed, Salvaged or otherwise used in its original form, either on-site or off-site.
 5. Sorting Method must be classified as On-Site Sorted, Off-Site Sorted Method 1, or Off-Site Sorted Method 2.
- * These items must be listed in order to receive LEED credit.



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CONSTRUCTION AND DEMOLITION WASTE MANAGEMENT LOG

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**SECTION 01 77 00
CLOSEOUT PROCEDURES**

PART 1 – GENERAL

1.1 RELATED DOCUMENTS:

- A. The following documents apply to all required work for the Project: (1) the Contract Drawings, (2) the Specifications, (3) the General Conditions, (4) the Addendum, and (5) the Contract [City of New York Standard Construction Contract].

1.2 SUMMARY:

- A. This section includes administrative and general procedural requirements for Closeout Procedures, including, without limitation, the following:
1. Definitions
 2. Substantial Completion
 3. Final Acceptance
 4. Warranties
 5. Final Cleaning
 6. Repair of the Work
- B. LEED: Refer to the Addendum to identify whether this Project is designed to comply with a Certification Level according to the U.S. Green Building Council's (USGBC) Leadership in Energy & Environmental Design (LEED) Rating System, as specified in Section 01 81 13.03 SUSTAINABLE DESIGN REQUIREMENTS FOR LEED v3 BUILDINGS or Section 01 81 13.04 SUSTAINABLE DESIGN REQUIREMENTS FOR LEED v4 BUILDINGS.
- C. COMMISSIONING: Refer to the Addendum to identify whether this Project will be commissioned by an independent third party under separate contract with the City of New York. Commissioning must be in accordance with ASHRAE and USGBC LEED- NC procedures, as described in Section 01 91 13 GENERAL COMMISSIONING REQUIREMENTS FOR MEP SYSTEMS and Section 01 91 15 GENERAL COMMISSIONING REQUIREMENTS FOR BUILDING ENCLOSURE. The Contractor must cooperate with the Commissioning Agent and provide whatever assistance is required.

1.3 RELATED SECTIONS: include without limitation the following:

- A. Section 01 10 00 SUMMARY
B. Section 01 33 00 SUBMITTAL PROCEDURES
C. Section 01 74 19 CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL
D. Section 01 78 39 CONTRACT RECORD DOCUMENTS
E. Section 01 79 00 DEMONSTRATION AND OWNER'S PRE-ACCEPTANCE ORIENTATION

1.4 DEFINITIONS:

- A. Refer to Article 2 of the Contract for definition of terms, words and expressions used in the General Conditions not otherwise defined herein.



<u>Term</u>	<u>Definition</u>
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.

1.5 SUBSTANTIAL COMPLETION:

- A. Preliminary Procedures: Before requesting inspection to determine the date of Substantial Completion, the Contractor must complete and supply all items required by the Contract Specifications, General Conditions, Addendum to the General Conditions, change orders or other directives from the Commissioner's representatives. The required items will include all Contract requirements for Substantial Completion, including, but not limited to, items related to releases, regulatory approvals, warranties and guarantees, record documents, testing, demonstration and orientation, final clean up and repairs, and all specific checklist of items by the Resident Engineer. (See Attachment "A" at the end of this section for sample requirements for Substantial Completion).
- B. The Contractor must prepare and submit a list to the Resident Engineer of incomplete items, the value of incomplete construction, and reasons the Work is not complete.
- C. Inspection: The Contractor must submit to the Resident Engineer a written request for inspection for Substantial Completion. Within ten (10) Days of receipt of the request, the Resident Engineer will either proceed with inspection or notify Contractor of unfulfilled requirements. The Resident Engineer may request the services, as required, of the Design Consultant, client agency representative and/or other entities having involvement with the Work to assist in the inspection of the Work. If the Resident Engineer makes a determination that the Work is Substantially Complete and approves the Final Approved Punch List and the date for Final Acceptance, he/she will so advise the Commissioner and recommend issuance of the Certificate of Substantial Completion. If the Resident Engineer determines that the Work is not substantially complete, he/she will notify the Contractor of those items that must be completed or corrected before the Certificate of Substantial Completion will be issued.
 - 1 Re-inspection: Contractor must request re-inspection when the Work identified in previous inspections as incomplete are completed or corrected.
 - 2 Results of completed inspection will form the basis of the requirements for Final Acceptance.

1.6 FINAL ACCEPTANCE:

- A. Preliminary Procedures: Before requesting final inspection for Final Acceptance of the Work, the Contractor must complete the following. (Note that the following are to be completed, submitted as appropriate, and approved by the Commissioner, as applicable, prior to the final inspection and are not to be submitted for approval or otherwise at the final inspection unless specifically indicated). List exceptions in the request.
 - 1. Verify that all required submittals have been provided to the Commissioner including, but not limited to, the following:
 - a. Manufacturer's cleaning instructions;
 - b. Posted instructions;
 - c. As-built Contract Documents (Drawings, Specifications, and product data) as described in Section 01 78 39 CONTRACT RECORD DOCUMENTS, incorporating any changes required



- by the Commissioner as a result of the review of the submission prior to the pre-final inspection;
- d. Operation and maintenance manuals, including preventive maintenance, special tools, repair requirements, parts list, spare parts list, and operating instructions;
 - e. Completion of required demonstration and orientation, as applicable, of designated personnel in operation and maintenance of systems, sub-systems and equipment;
 - f. Applicable LEED Building submittals as described in Section 01 81 13.03 SUSTAINABLE DESIGN REQUIREMENTS FOR LEED v3 BUILDINGS or Section 01 81 13.04 SUSTAINABLE DESIGN REQUIREMENTS FOR LEED v4 BUILDINGS; and
 - g. Construction progress photographs as described in Section 01 32 33 PHOTOGRAPHIC DOCUMENTATION.
2. Submit a certified copy of the Final Approved Punch List of items to be completed or corrected. The certified copy of the Punch List must state that each item has been completed or otherwise resolved for acceptance, and must be endorsed and dated by the Contractor.
 3. Submit pest-control final inspection report and survey as required in Section 01 50 00 TEMPORARY FACILITIES AND CONTROLS.
 4. Submit record documents and similar final record information.
 5. Deliver tools and similar items.
 6. Complete final clean-up requirements including touch-up painting of marred surfaces.
 7. Submit final meter readings for utilities, as applicable, a measured record of stored fuel, and similar data as of the date when the City took possession of and assumed responsibility for corresponding elements of the Work.
- B. Final Inspection: The Contractor must submit to the Resident Engineer a written request for inspection for Final Acceptance of the Work. Within ten (10) Days of receipt of the request, the Resident Engineer will either proceed with inspection or notify the Contractor of unfulfilled requirements. The Resident Engineer may request the services, as required, of the Design Consultant, client agency representative and/or other entities having involvement with the Work to assist in the inspection of the Work. If the Resident Engineer finds that all items on the Final Approved Punch List are complete and no further Work remains to be done, he/she will so advise the Commissioner and recommend the issuance of the determination of Final Acceptance. If the Resident Engineer determines that the Work is not complete, he/she will notify the Contractor of those items that must be completed or corrected before the determination of Final Acceptance will be issued.
- C. Final Acceptance: The Work will be accepted as final and complete as of the date of the Resident Engineer's inspection if, upon such inspection, the Resident Engineer finds that all items on the Final Approved Punch List are complete and no further Work remains to be done. The Commissioner will then issue a written determination of Final Acceptance.

1.7 WARRANTIES:

- A. Schedule B of the Addendum lists the items of materials and/or equipment for which manufacturer warranties are required. For each item of material and/or equipment listed in Schedule B, the Contractor must obtain a written warranty from the manufacturer. Such warranty must provide that the material or equipment is free from defects for the period set forth in Schedule B and will be replaced or repaired within such specified period. The Contractor must deliver all required warranties to the Commissioner.
- B. Unless indicated otherwise, warranties are to take effect on the date of Substantial Completion.



- C. Submittal Time: Submit written warranties on request of the Commissioner for designated portions of the Work where commencement of warranties other than date of Substantial Completion is indicated.
- D. Partial Occupancy: Submit properly executed warranties to the Commissioner within fifteen (15) Days of completion of designated portions of the Work that are completed and occupied or used by the City.
- E. Organize the warranty documents into an orderly sequence based on the Project Specification Divisions and Section Numbers.
 - 1. Bind warranties in heavy-duty, 3-ring, vinyl-covered, loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2-by-11-inch paper.
 - 2. Identify each binder on the front and spine with the typed or printed title "WARRANTIES"; name and location of Project; Capitol Budget Project Number (FMS ID); and Contractor's and applicable subcontractor's name and address.
 - 3. Provide heavy paper dividers with plastic-covered tabs for each separate warranty. Mark tab to identify the product or installation.
 - 4. Provide a typed description of each product or installation being warranted, including the name of the product, and the name, address, and telephone number of the installer.
- F. When warranted materials and/or equipment require operation and maintenance manuals, provide additional copies of each required warranty in each required manual. Refer to Section 01 78 39 CONTRACT RECORD DOCUMENTS, for requirements of operation and maintenance manuals.

PART II – PRODUCTS

2.1 MATERIALS:

- A. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.

PART III – EXECUTION

3.1 FINAL CLEANING:

- A. General: Provide final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and federal and local environmental and antipollution regulations.
- B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.
 - 1. Complete the following cleaning operations, as applicable, before requesting inspection for Final Acceptance of the Work for the entire Project or for a portion of the Project:
 - a. Clean Project Site, yard, and grounds in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.
 - b. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.
 - c. Rake grounds that are neither planted nor paved to a smooth, even-textured surface.
 - d. Remove tools, construction equipment, machinery, and surplus material from Project Site.
 - e. Remove snow and ice to provide safe access to building.



- f. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
 - g. Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.
 - h. Sweep concrete floors broom clean in unoccupied spaces.
 - i. Vacuum carpet and similar soft surfaces, removing debris and excess nap; shampoo if visible soil or stains remain.
 - j. Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compounds and other noticeable, vision-obscuring materials. Replace chipped or broken glass and other damaged transparent materials. Polish mirrors and glass, taking care not to scratch surfaces.
 - k. Remove labels that are not permanent.
 - l. Touch up and otherwise repair and restore marred, exposed finishes and surfaces. Replace finishes and surfaces that cannot be satisfactorily repaired or restored or that already show evidence of repair or restoration.
 - 1) Do not paint over "UL" and similar labels, including mechanical and electrical nameplates.
 - m. Wipe surfaces of mechanical and electrical equipment and similar equipment. Remove excess lubrication, paint and mortar droppings, and other foreign substances.
 - n. Replace parts subject to unusual operating conditions.
 - o. Clean plumbing fixtures to a sanitary condition, free of stains, including stains resulting from water exposure.
 - p. Replace disposable air filters and clean permanent air filters. Clean exposed surfaces of diffusers, registers, and grills.
 - q. Clean ducts, blowers, and coils if units were operated without filters during construction.
 - r. Clean light fixtures, lamps, globes, and reflectors to function with full efficiency. Replace burned-out bulbs, and those noticeably dimmed by hours of use, and defective and noisy starters in fluorescent and mercury vapor fixtures to comply with requirements for new fixtures.
 - s. Leave Project clean and ready for occupancy.
 - t. Construction Waste Disposal: Comply with waste disposal requirements in Section 01 74 19 CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL.
- C. Pest Control: Engage an experienced, licensed exterminator to make a final inspection and rid Project of rodents, insects, and other pests, as required in Section 01 50 00 TEMPORARY FACILITIES, SERVICES AND CONTROLS. Prepare and submit a pest control report to the Commissioner.
- D. Comply with all applicable safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on City's property. Do not discharge volatile, harmful, or dangerous materials into drainage systems. Remove waste materials from Project Site and dispose of lawfully.

3.2 REPAIR OF THE WORK:

- A. Subject to the terms of the Contract, the Contractor must complete repair and restoration operations before requesting inspection for determination of Substantial Completion.



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- B. Contractor must repair or remove and replace defective construction. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment. Where damaged or worn items cannot be repaired or restored, provide replacements. Remove and replace operating components that cannot be repaired. Restore damaged construction and permanent facilities used during construction to specified condition.
1. Remove and replace chipped, scratched, and broken glass, reflective surfaces, and other damaged transparent materials.
 2. Touch up and otherwise repair and restore marred or exposed finishes and surfaces. Replace finishes and surfaces that already show evidence of repair or restoration.
 - a. Do not paint over "UL" and other required labels and identification, including mechanical and electrical nameplates. Remove paint applied to required labels and identification.
 3. Replace parts subject to operating conditions during construction that may impede operation or reduce longevity.
 4. Replace burned-out bulbs, bulbs noticeably dimmed by hours of use, and defective and noisy starters in fluorescent and mercury vapor fixtures to comply with requirements for new fixtures.

END OF SECTION 01 77 00



SECTION 01 77 00

ATTACHMENT 'A'

The following list is a general sample of Substantial Completion requirements, including, but not limited to:

1. Prepare and submit a list to the Resident Engineer of incomplete items, the value of incomplete construction, and reasons the Work is not complete.
2. Obtain and submit any necessary releases enabling the City unrestricted use of the Project and access to services and utilities.
3. Regulatory Approvals: Submit all required documentation from applicable governing authorities, including, but not limited to, the New York City Department of Buildings (DOB); Department of Transportation (DOT); Department of Environmental Protection (DEP); Fire Department (FDNY); etc. Documentation includes, but is not limited to, the following:
 - a. Building permits, applications and sign-offs;
 - b. Permits and sign-off for construction fences; sidewalk bridges; scaffolds, cranes and derricks; utilities; etc.;
 - c. Certificates of inspections and sign-offs;
 - d. Required certificates and use permits; and
 - e. Certificate of Occupancy (C.O.), Temporary Certificate of Occupancy (T.C.O.) or Letter of Completion as applicable.
4. Submit specific warranties required by the Specifications, final certifications, and similar documents.
5. Prepare and submit Contract Documents as described in Section 01 78 39, CONTRACT RECORD DOCUMENTS, including but not limited to:
 - a. Approved documentation from governing authorities;
 - b. As-built record drawings and Specifications; product data; operation and maintenance manuals;
 - c. Final Completion construction photographs;
 - d. Damage or settlement surveys;
 - e. Final property surveys; and
 - f. Similar final record information.
 - g. The Resident Engineer will review the submission and provide appropriate comments. If comments are significant, the initial submission will be returned to the Contractor for correction and re-submission incorporating the comments prior to the Final Inspection.
6. Record Waste Management Progress Report: Submit Construction & Demolition (C&D) Waste Management logs, with legible copies of weight tickets and receipts required in accordance with Section 01 74 19 CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL.
7. If applicable submit LEED letter template in accordance with the requirements of Section 01 81 13.03 SUSTAINABLE DESIGN REQUIREMENTS FOR LEED v3 BUILDINGS or Section 01 81 13.04 SUSTAINABLE DESIGN REQUIREMENTS FOR LEED v4 BUILDINGS.



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8. Schedule applicable demonstration and orientation required in other sections of the Project Specifications and as described in Section 01 79 00 DEMONSTRATION AND OWNER'S PRE-ACCEPTANCE ORIENTATION.
9. Deliver tools and similar items to location designated by Resident Engineer. Label with manufacturer's name and model number where applicable.
10. Make final changeover of permanent locks and deliver keys to the Resident Engineer. Advise Commissioner of changeover in security provisions.
11. Complete startup testing of systems as applicable.
12. Submit approved test/adjust/balance records.
13. Terminate and remove temporary facilities from Project Site, along with mockups, construction tools, and similar elements as directed by the Resident Engineer.
14. If applicable, complete Commissioning requirements as defined in Section 01 91 13 GENERAL COMMISSIONING REQUIREMENTS FOR MEP SYSTEMS and/ or Section 01 91 15 BUILDING ENCLOSURE COMMISSIONING REQUIREMENTS.
15. Complete final cleaning requirements, including touchup painting.
16. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.



**SECTION 01 78 39
CONTRACT RECORD DOCUMENTS**

PART 1 – GENERAL

1.1 RELATED DOCUMENTS:

- A. The following documents apply to all required work for the Project: (1) the Contract Drawings, (2) the Specifications, (3) the General Conditions, (4) the Addendum, and (5) the Contract [City of New York Standard Construction Contract].

1.2 SUMMARY:

- A. This section includes administrative and general procedural requirements for Contract Record Documents, including:
1. Contract Record Drawings
 2. Record Specifications, Addenda and Change Orders
 3. Record Product Data
 4. Record Sample Submittal
 5. Construction Record Photographs
 6. Operating and Maintenance Manuals
 7. Final Site Survey
 8. Demonstration and Orientation DVD
 9. Guarantees and Warranties
 10. Waste Disposal Documentation
 11. LEED Materials and Matrix
 12. Miscellaneous Record Submittals
- B. The Department of Design and Construction (DDC), at the start of construction (kick-off meeting), will furnish to the Contractor, at no cost, a complete set of Contract Record Drawings (PDF set) pertaining to the Work to be performed under the Contract. It is the responsibility of the Contractor to modify the Contract Drawings to indicate all changes and corrections, if any, occurring in the Work as actually installed. The Contractor is required to furnish all other drawings, if necessary, such as Addenda Drawings and Supplementary Drawings as may be necessary to indicate all Work in detail as actually completed. All professional seals must be blocked out. Title box complete with Project title and Design Consultants' names will remain.
- C. Maintenance of Documents and Samples: The Contractor must maintain, during the progress of the Work, an accurate record of the Work as actually installed, on Contract Record Drawings (PDF set). Store Contract Record Documents and samples in the field office apart from the Contract Documents used for construction. Do not use Contract Record Documents for construction purposes. Maintain Contract Record Documents in good order and in a clean, dry, legible condition. Make documents and samples available at all times for the Resident Engineer's inspections.
1. The Contractor's attention is particularly directed to the necessity of keeping accurate records of all subsurface and concealed Work, so that the Contract Record Drawings contain this information in exact detail and location. Contract Record Drawings must also show all connections, valves, gates, switches, cut-outs and similar operating equipment.



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2. For projects designated to achieve a Leadership in Energy and Environmental Design (LEED) rating, the Contractor will receive a copy of the Project's LEED scorecard for the purpose of monitoring compliance with the target objectives and to facilitate coordination with the LEED Consultant. The Contractor will receive periodic updates of this scorecard and is required to submit the final version of the Scorecard at Substantial Completion with other Project Record Documents.

1.3 RELATED SECTIONS: include without limitation the following:

- | | | |
|----|------------------|-------------------------------------|
| A. | Section 01 10 00 | SUMMARY |
| B. | Section 01 32 00 | CONSTRUCTION PROGRESS DOCUMENTATION |
| C. | Section 01 32 33 | PHOTOGRAPHIC DOCUMENTATION |
| D. | Section 01 33 00 | SUBMITTAL PROCEDURES |
| E. | Section 01 77 00 | PROJECT CLOSEOUT PROCEDURES |

1.4 DEFINITIONS:

- A. Refer to Article 2 of the Contract for definition of terms, words and expressions used in the General Conditions not otherwise defined herein.

<u>Term</u>	<u>Definition</u>
Commissioning Authority / Commissioning Agent (CxA)	The entity responsible for providing commissioning services for the Project. The entity serving as the CxA may be either an employee(s) of the City or an entity engaged by the City to provide such services.
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.
LEED Consultant	The entity responsible for providing LEED sustainability services for the Project. The entity serving as the LEED Consultant may be either an employee(s) of the City or an entity engaged by the City to provide such services.

1.5 SUBMITTALS:

- A. As-Built Contract Record Drawings: The Contractor must comply with the following:
 1. Progress Submission: As directed by the Resident Engineer, submit progress as-built Contract Record Drawings at the fifty percent (50%) construction completion stage.
 2. Final Submission: Before Substantial Completion payment, the Contractor must furnish to the Commissioner one (1) complete set of marked-up as-built Contract Record Drawings, in PDF indicating all of the Work and locations as actually installed.
 3. As-built Contract Record Drawings must be of the same size as that of the Contract Drawings, with a one (1) inch margin on three (3) sides and a two (2) inch margin on the left side for binding.
 4. Each as-built Contract Record Drawing must bear the legend "AS-BUILT CONTRACT RECORD DRAWING" in heavy block lettering, one half (1/2) inch high, and contain the following data:



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AS-BUILT CONTRACT RECORD DRAWING

Contractor's Name	_____
Contractor's Address	_____
Subcontractor's Name (where applicable)	_____
Subcontractor's Address	_____
Made by:	Date _____
Checked by:	Date _____

Commissioner's Representatives	
(Resident Engineer)	DDC
(Plumbing Inspector)	DDC
(Heating & Ventilating Inspector)	DDC
(Electrical Inspector)	DDC

5. Contract Record Drawing Title Sheet: The Contractor must prepare a title sheet, the same size as the Contract Record Drawings, which must contain the following:
 - a. Heading:

The City of New York
Department of Design and Construction
Division of Public Buildings
 - b. Capital Budget Project Number (FMS ID)
 - c. Name and Location of Project
 - d. Contractor's Name and Address
 - e. Subcontractor's Name and Address (where applicable)
 - f. Record of changes (a caption description of work affected, and the date and number of change order or other authorization)
 - g. List of Record Drawings
- B. Record Specifications, Addenda and Change Order: Submit to the Commissioner two (2) copies each of marked-up Record Specifications, Addenda and change orders.
- C. Record Product Data: Submit to the Commissioner two (2) sets of Record Product Data.
- D. Record Construction Photographs: Submit to the Commissioner final as-built construction photographs and digital files of the completed Work as described in Section 01 32 33 PHOTOGRAPHIC DOCUMENTATION.
- E. Operating and Maintenance Manuals:
 1. Submit three (3) copies each of preliminary manuals to the Resident Engineer for review and approval. The Contractor must make such corrections, changes and/or additions to the manual until deemed satisfactory by the Resident Engineer. Deliver three (3) copies of the final approved manuals to the Resident Engineer for distribution.
 2. Commissioning: Comply with the requirements of Section 01 91 13 GENERAL COMMISSIONING REQUIREMENTS FOR MEP SYSTEMS and 01 91 15 GENERAL COMMISSIONING REQUIREMENTS FOR BUILDING ENCLOSURE, as well as the requirements set forth in sections of the Project Specifications, for projects designated for commissioning. Submit four (4) copies each of data designated to be included in the commissioning operation and maintenance manual to the Resident Engineer. The Resident Engineer will forward such data to the Commissioning Authority/Agent (CxA) for review and comment. The Contractor must make such corrections, changes and/or additions to the data until deemed satisfactory and deliver four (4) copies of the final data to the Resident Engineer for use by the CxA to prepare the commissioning operation and maintenance manual.



- a. Non-Commissioning Data: All remaining data not designated for commissioning and required as part of maintenance and operation manual must be prepared and assembled in accordance with the requirements of this section for operating and maintenance manuals.
- F. Final Site Survey: Submit Final Site survey as described in Section 01 73 00, EXECUTION, in quantities requested by the Commissioner, signed and sealed by a Land Surveyor licensed in the State of New York.
- G. Guarantees and Warranties.
- H. Waste Disposal Documents and Miscellaneous Record Documents.

PART II – PRODUCTS

2.1 CONTRACT RECORD DRAWINGS:

- A. Record Prints: The Contractor must maintain one (1) set of blue- or black-line white prints as applicable of the Contract Record Drawings and Shop Drawings. If applicable, the Contract Record Drawings and Shop Drawings must incorporate the arrangement of the Work based on the accepted master coordination drawing(s) as described in Section 01 33 00, SUBMITTAL PROCEDURES.
 - 1. Preparation: The Contractor must mark record drawings to show the actual installation where installation varies from that shown originally. Require individual or entity who obtained record data, whether individual or entity is installer, subcontractor, or similar entity, to prepare the marked-up Record Prints.
 - a. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later.
 - b. Accurately record information in an understandable drawing technique.
 - c. Record data as soon as possible after obtaining it. Record and check the markup before enclosing concealed installations.
 - 2. Change Orders: All changes from Contract Drawings must be distinctly encircled and identified by change order number correlating to changes listed on the "Title Sheet." The Contractor must show within the encircled areas the work as actually installed.
- B. Content: Types of items requiring marking include, but are not limited to, the following:
 - 1. Dimensional changes to Contract Record Drawings;
 - 2. Revisions to details shown on Contract Record Drawings;
 - 3. Depths of foundations below first floor;
 - 4. Locations and depths of underground utilities;
 - 5. Revisions to routing of piping and conduits;
 - 6. Revisions to electrical circuitry;
 - 7. Actual equipment locations;
 - 8. Duct size and routing;
 - 9. Locations of concealed internal utilities;
 - 10. Changes made by change order;
 - 11. Changes made following Commissioner's written orders;
 - 12. Details not on the original Contract Drawings;
 - 13. Field records for variable and concealed conditions; and
 - 14. Record information on the Work that is shown only schematically.
- C. Progress Record Prints: As directed by the Resident Engineer, at fifty percent (50%) construction completion, review marked-up Record Prints with the Resident Engineer and the Design Consultant. When directed by the Resident Engineer, transfer progress mark-ups to a PDF set and submit to the Resident Engineer.



- D. Final Contract Record Prints: Immediately before final inspection for the Certificate of Substantial Completion, review marked-up record prints with the Resident Engineer and the Design Consultant. When authorized, complete mark-up of a full set of corrected PDF prints of the Contract Drawings.
1. Incorporate changes and additional information previously marked on Record Prints. Erase, redraw, and add details and notations where applicable.
 2. Refer instances of uncertainty to Resident Engineer for resolution.
 3. Submit the as-built Contract Record Drawings and Shop Drawings for use as record prints as described in Sub-Section 1.5.

2.2 RECORD SPECIFICATIONS, ADDENDA AND CHANGE ORDERS:

- A. Preparation: Mark Specifications to indicate the actual product installation where installation varies from that indicated in Specifications, Addenda, and Contract modifications.
1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
 2. Mark copy with the proprietary name and model number of products, materials, and equipment furnished, including substitutions and product options selected.
 3. Record the name of manufacturer, supplier, installer, and other information necessary to provide a record of selections made.
 4. For each principal product, indicate whether record product data has been submitted in operation and maintenance manuals instead of submitted as record product data.
 5. Note related change orders and Contract Record Drawings where applicable.
 6. Upon completion of mark-up, submit two (2) complete copies of the marked-up record Specifications to the Commissioner.

2.3 RECORD PRODUCT DATA:

- A. Preparation: Mark product data to indicate the actual product installation where installation varies substantially from that indicated in product data submittal.
1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
 2. Include significant changes in the product delivered to Project Site and changes in manufacturer's written instructions for installation.
 3. If possible, a change order proposal should include resubmitting updated product data. This eliminates the need to mark up the previous submittal.
 4. Note related change orders and Contract Record Drawings where applicable.
 5. Upon completion of mark-up, submit to the Commissioner two (2) sets of the marked-up record product data.
 6. Where record product data is required as part of maintenance manuals, submit marked-up product data as an insert in the manual instead of submittal as record product data.

2.4 RECORD SAMPLE SUBMITTAL:

- A. Prior to the date of Substantial Completion, the Contractor must meet with the Resident Engineer at the Site to determine which of the samples maintained during the construction period must be transmitted to the Commissioner for record purposes.



- B. Comply with the Resident Engineer's instructions for packaging, identification marking, and delivery to DDC. Dispose of other samples as specified for disposal of surplus and waste material.

2.5 CONSTRUCTION RECORD PHOTOGRAPHS:

- A. The Contractor must submit the final completion construction photographs, in compliance with Section 01 32 33 PHOTOGRAPHIC DOCUMENTATION.

2.6 OPERATING AND MAINTENANCE MANUALS:

- A. The Contractor must provide preliminary and final versions of operating and maintenance manuals required for those systems, equipment, and materials listed in other Sections of the Project Specifications.
- B. Format: Prepare and assemble operation and maintenance manuals in heavy-duty, 3-ring, hardback loose leaf binders in the form of an instructional manual. All binders for each discipline must be the same color. When multiple binders are used, correlate data into related consistent groupings. Binder front must contain permanently attached labels displaying the following:
 - 1. Heading:
The City of New York
Department of Design and Construction
Division of Public Buildings
 - 2. Capital Budget Project Number (FMS ID)
 - 3. Name and Location of Project
 - 4. Contractor's Name and Address
 - 5. Subcontractor's Name and Address (where applicable)
 - 6. Dates of the Work covered by the contents of the Project Manual.
 - 7. Binder spine must display Project Number (FMS ID) and date of completion.
- C. Organization: Include a section in the directory for each of the following:
 - 1. List of documents
 - 2. List of systems
 - 3. List of equipment
 - 4. Table of contents
- D. Each manual must contain the following materials, in the order listed:
 - 1. Title page
 - 2. Table of contents
 - 3. Manual contents
- E. Arrange contents alphabetically by system, subsystem, and equipment. Cross-reference Specification Section numbers. Provide tabbed flyleaf for each separate product, equipment and/or system/subsystem with typed description of product and major component parts of equipment.
- F. Safety warnings or cautions must be visibly highlighted within each maintenance procedure. Use of such highlights must be limited to only critical items and must not be used in an excessive manner which would reduce their effectiveness.
- G. For each product or system, list names, addresses and telephone numbers of subcontractors and suppliers, including local source of supplies and replacement parts. Vendors and supplier listings are to include names, addresses and telephone numbers, including nearest field service telephone numbers.
- H. Where contents of the manual include any manufacturer's catalog pages, clearly indicate the precise items and options included in the installation and delete all manufacturers' data regarding products not included in the installation.



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- I. All material within manuals must be new. Copies used for prior submittals or used in construction must not be used.
- J. Submit preliminary and final manual editions to the Commissioner according to the approved progress schedule.
- K. Manuals must present all technical material to the greatest extent possible, with respect to text, tabular matter and illustrations. Illustrations must preferably consist of line drawings. All applicable drawings must be included. If available, color photograph prints may be included.
- L. Preliminary manual editions must be as technically complete as the final manual edition. All illustrations must be in final forms.
- M. Final manual editions must be technically accurate and complete and must represent all “as-built” systems, pieces of equipment, or materials, which have been accepted by the Commissioner. All illustrations, text and tabular material must be in final form. All shop drawings must be included as specified in individual Specification Sections.
- N. Building products, applied materials, and finishes: Include product data, with catalog number, size, composition, and color texture designations. Where applicable, provide information for re-ordering custom manufactured products.
- O. Instructions for care and maintenance: Include manufacturers’ recommendations for cleaning agents and methods, and recommended schedule for cleaning and maintenance.
- P. Moisture protection and weather exposed products: Include product data listing applicable reference standards, chemical compositions, and details of installation. Provide recommendations for inspections, maintenance, and repair.
- Q. Additional requirements: Specified in individual Specification Sections.

2.7 FINAL SITE SURVEY

- A. The Contractor must submit the final certification and final survey in compliance with Section 01 73 00 EXECUTION.

2.8 DEMONSTRATION AND ORIENTATION DVD:

- A. The Contractor must submit a final version of applicable demonstration and training electronic recordings in compliance with Section 01 79 00 DEMONSTRATION AND OWNER’S PRE-ACCEPTANCE ORIENTATION.

2.9 GUARANTEES AND WARRANTIES:

- B. SCHEDULE B: Requirements for guarantees and warranties for the Project are set forth in Schedule B, which is included as part of the Addendum.
- C. FORM: For all guaranty requirements set forth in Schedule B, the Contractor must provide a written guaranty, in the form set forth herein.
- D. Submit fully executed and signed manufacturers’ warranties as listed in the Project Specifications and outlined in Schedule B of the Addendum. Refer to Section 01 77 00, CLOSEOUT PROCEDURES for submittal requirements.



GUARANTY

DDC PROJECT # _____

PROJECT DESCRIPTION _____

CONTRACT # _____

SPECIFICATION SECTION # AND TITLE _____

GUARANTY TO BE IN EFFECT FROM _____

TO _____

The Contractor hereby guarantees that the Work specified under the above section of the aforesaid Contract will be free from defects of material and/or workmanship, for the period indicated above.

The Contractor also guarantees that it will promptly repair, restore, rebuild or replace whichever may be deemed necessary by the City, any or all defective material or workmanship of the aforementioned section, that may appear within the guaranty period and any finished Work to which damage may occur because of such defects, to the satisfaction of the City and without any cost or expense to the City.

The Contractor hereby agrees to pay to the City the cost of the repairs or replacements should the City make the same because of the failure of the Contractor to do so.

Contractor: _____

By: _____
Signature of Partner or Corporate Officer

Print Name: _____

Subscribed and sworn to before me this
day of _____, year _____

Notary Public



2.10 WASTE DISPOSAL DOCUMENTATION:

- A. Certify and deliver to the Commissioner all documentation including reports, receipts, certificates, records etc. for the collection, handling, storage, classification, testing, transportation, recycling and/or disposal of all Non-Hazardous Construction Waste as required by Section 01 74 19, CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL, and Hazardous Waste as required by other Project Specification Sections. Certify compliance with all applicable governing laws, codes, rules and regulations.

2.11 MISCELLANEOUS RECORD DOCUMENTS:

- A. Refer to other Project Specification Sections for miscellaneous record-keeping requirements and submittals in connection with various construction activities. Prior to Final Acceptance, complete miscellaneous records and place in good order, properly identified and bound or otherwise organized to allow for use and reference.
- B. Submit three (3) copies of each document to the Commissioner or as otherwise directed by the Commissioner.

PART III – EXECUTION

3.1 RECORDING AND MAINTENANCE:

- A. Recording: Maintain one (1) copy of each submittal during the construction period for Contract Record Document purposes. Post changes and modifications to Project Record Documents as they occur; do not wait until the end of the Project.
- B. Maintenance of Record Documents and Samples: Store Contract Record Documents and samples in the field office apart from the Contract Documents used for construction. Do not use Contract Record Documents for construction purposes. Maintain Contract Record Documents in good order and in a clean, dry, legible condition, protected from deterioration and loss. Provide access to the Contract Record Documents for the Resident Engineer's reference during normal working hours.

END OF SECTION 01 78 39



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**SECTION 01 79 00
DEMONSTRATION AND OWNER'S PRE-ACCEPTANCE ORIENTATION**

REFER TO THE ADDENDUM FOR APPLICABILITY OF THIS SECTION 01 79 00

PART 1 – GENERAL

1.1 RELATED DOCUMENTS:

- A. The following documents apply to all required work for the Project: (1) the Contract Drawings, (2) the Specifications, (3) the General Conditions, (4) the Addendum, and (5) the Contract [City of New York Standard Construction Contract].

1.2 SUMMARY:

- A. This section includes administrative and procedural requirements, when set forth in sections of the Project Specifications, for instructing the facility's personnel, including the following:
 - 1. Demonstration of operation of systems, subsystems, and equipment.
 - 2. Owner's pre-acceptance orientation in operation and maintenance of systems, subsystems, and equipment.
 - 3. Demonstration and orientation video recordings.
- B. The Contractor must provide the services of orientation specialists from the Contractor's equipment manufacturers. The specialists must be experienced in the type of equipment to be demonstrated.
- C. Separate orientation sessions must be conducted for mechanical operations and maintenance personnel and for electronic and electrical maintenance personnel.
- D. Commissioning: Refer to the Addendum to identify whether this project is to be commissioned. For commissioned projects, the Contractor must provide demonstration and orientation as described in this section and cooperate with the Commissioning Authority/Agent (CxA) to implement commissioning requirements as described in Section 01 91 13, GENERAL COMMISSIONING REQUIREMENTS FOR MEP SYSTEMS, and/ or Section 01 91 15 BUILDING ENCLOSURE COMMISSIONING REQUIREMENTS.

1.3 RELATED SECTIONS: include without limitation the following:

- A. Section 01 10 00 SUMMARY
- B. Section 01 33 00 SUBMITTAL PROCEDURES
- C. Section 01 77 00 CLOSEOUT PROCEDURES
- D. Section 01 78 39 CONTRACT RECORD DOCUMENTS
- E. Section 01 91 13 GENERAL COMMISSIONING REQUIREMENTS FOR MEP SYSTEMS
- F. Section 01 91 15 BUILDING ENCLOSURE COMMISSIONING REQUIREMENTS
- G. Specific requirements for demonstration and orientation indicated in other sections of the Project Specifications.



1.4 DEFINITIONS:

- A. Refer to Article 2 of the Contract for definition of terms, words and expressions used in the General Conditions not otherwise defined herein.

<u>Term</u>	<u>Definition</u>
Commissioning Authority / Commissioning Agent (CxA)	The entity responsible for providing commissioning services for the Project. The entity serving as the CxA may be either an employee(s) of the City or an entity engaged by the City to provide such services.
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.

1.5 SUBMITTALS:

- A. Instruction Program: Submit three (3) copies of an outline of the instructional program for demonstration and orientation, including a schedule of proposed dates, times, length of instruction time, and instructors' names for each orientation module to the Commissioner for approval no less than thirty (30) Days prior to the date the proposed orientation is to take place. Include learning objectives and outline for each orientation module.
1. At completion of orientation, submit three (3) complete training manual(s) and three (3) applicable video recording(s) to the Commissioner for the facility's and City's use.
- B. Qualification Data: For facilitator, instructor and videographer.
- C. Attendance Record: For each orientation module, submit a list of participants and length of instruction time.
- D. Evaluations: For each participant and for each orientation module, submit results and documentation of performance-based test.
- E. Submit all final orientation materials to the Resident Engineer a minimum of fourteen (14) Days prior to the scheduled orientation.
- F. Demonstration and Orientation Recordings:
1. All Projects:
- a. The Contractor must submit to the Commissioner three (3) copies of demonstration and orientation video recordings within seven (7) Days of end of each orientation module.
- b. Identification: On each copy, provide an applied label with the following information:
- 1) Project Contract I.D. Number
 - 2) Project Contract Name
 - 3) Name of Contractor
 - 4) Name of Subcontractor as applicable
 - 5) Name of Design Consultant
 - 6) Name of Construction Manager as applicable
 - 7) Date recorded



- 8) Description of vantage point, indicating location, direction (by compass point), and elevation or story of construction.
- 9) Table of Contents including list of systems covered.
- c. Transcript: Prepared on 8-1/2-by-11-inch paper, punched and bound in heavy-duty, 3-ring, vinyl-covered binders. Mark appropriate identification on front and spine of each binder. Include a cover sheet with same label information as the corresponding DVD recording. Include name of Project and date of recording on each page.
- d. Commissioned Projects: The Contractor must submit one (1) additional copy of the demonstration and orientation video recording to the CxA through the Resident Engineer who will include the approved recording in the commissioning report.

1.6 QUALITY ASSURANCE:

- A. Facilitator Qualifications: A firm or individual experienced in orientation or educating maintenance personnel in an orientation program similar in content and extent to that indicated for this Project.
- B. Instructor Qualifications: A factory-authorized service representative, complying with requirements in Section 01 40 00 QUALITY REQUIREMENTS, experienced in operation and maintenance procedures and orientation.
- C. Videographer Qualifications: A professional videographer who has experience with orientation and construction projects.
- D. Pre-Instruction Conference: Schedule with the Resident Engineer a conference at Project Site in accordance with Section 01 31 00 PROJECT MANAGEMENT AND COORDINATION. Review methods and procedures related to demonstration and orientation including, but not limited to, the following:
 - 1. Inspect and discuss locations and other facilities required for instruction.
 - 2. Review and finalize instruction schedule and verify availability of educational materials, instructors' personnel, audiovisual equipment, and facilities needed to avoid delays.
 - 3. Review required content of instruction.
 - 4. For instruction that must occur outside, review weather and forecasted weather conditions and procedures to follow if conditions are unfavorable.

1.7 COORDINATION:

- A. Coordinate instruction schedule with the Resident Engineer and facility's operations. Adjust schedule as required to minimize disrupting facility's operations.
- B. Coordinate instructors, including providing notification of dates, times, length of instruction time, and course content.
- C. Coordinate content of orientation modules with content of approved emergency, operation, and maintenance manuals. Do not submit instruction program until operation and maintenance data has been reviewed and approved by the Commissioner.

PART II – PRODUCTS

2.1 INSTRUCTION PROGRAM:

- A. Program Structure: Develop an instruction program that includes individual orientation modules for each system and equipment not part of a system, as specified and required by individual Specification Sections.



- B. Orientation Modules: Develop a learning objective and teaching outline for each module. Include a description of specific skills and knowledge that participant is expected to master. For each module, include instruction for the following:
1. For basis of system design, operational requirements, and criteria, include the following:
 - a. System, subsystem, and equipment descriptions;
 - b. Performance and design criteria if Contractor is delegated design responsibility;
 - c. Operating standards;
 - d. Regulatory requirements;
 - e. Equipment function including auxiliary equipment and systems;
 - f. Operating characteristics;
 - g. Limiting conditions; and
 - h. Performance curves.
 2. For documentation, review the following items in detail:
 - a. Emergency manuals;
 - b. Operations manuals;
 - c. Maintenance manuals;
 - d. Project Record Documents;
 - e. Identification systems; and
 - f. Warranties.
 3. For emergencies, include the following, as applicable:
 - a. Instructions on meaning of warnings, trouble indications, and error messages;
 - b. Instructions on stopping;
 - c. Shutdown instructions for each type of emergency;
 - d. Operating instructions for conditions outside of normal operating limits;
 - e. Sequences for electric or electronic systems; and
 - f. Special operating instructions and procedures.
 4. For operations, include the following, as applicable:
 - a. Startup procedures;
 - b. Equipment or system break-in procedures;
 - c. Routine and normal operating instructions;
 - d. Regulation and control procedures;
 - e. Control sequences;
 - f. Safety procedures;
 - g. Instructions on stopping;
 - h. Normal shutdown instructions;
 - i. Operating procedures for emergencies;
 - j. Operating procedures for system, subsystem, or equipment failure;
 - k. Seasonal and weekend operating instructions;
 - l. Required sequences for electric or electronic systems; and
 - m. Special operating instructions and procedures.
 5. For adjustments, include the following:
 - a. Alignments;
 - b. Checking adjustments;
 - c. Noise and vibration adjustments; and
 - d. Economy and efficiency adjustments.
 6. For troubleshooting, include the following:



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- a. Diagnostic instructions; and
 - b. Test and inspection procedures.
7. For maintenance, include the following:
 - a. Inspection procedures;
 - b. Types of cleaning agents to be used and methods of cleaning;
 - c. List of cleaning agents and methods of cleaning detrimental to product;
 - d. Procedures for routine cleaning;
 - e. Procedures for preventive maintenance;
 - f. Procedures for routine maintenance;
 - g. Instruction on use of special tools; and
 - h. Housekeeping practices.
8. For repairs, include the following:
 - a. Diagnosis instructions;
 - b. Repair instructions;
 - c. Disassembly, component removal, repair, and replacement; and reassembly instructions;
 - d. Instructions for identifying parts and components; and
 - e. Review of spare parts needed for operation and maintenance.

PART III – EXECUTION

3.1 INSTRUCTION:

- A. Facilitator: Engage a qualified facilitator to prepare the instruction program and orientation modules, to coordinate instructors, and to coordinate between Contractor and the Resident Engineer for the number of participants, instruction times, and location.
- B. The Contractor must engage qualified instructors to instruct the facility's personnel to adjust, operate, and maintain systems, subsystems, and equipment not part of a system.
- C. Scheduling: Schedule instruction with the Resident Engineer at mutually agreed upon times. For equipment that requires seasonal operation, provide similar instruction at the start of each season.
 1. Schedule orientation with the Resident Engineer with at least fourteen (14) Days advance notice.
- D. Evaluation: At the conclusion of each orientation module, assess and document each participant's mastery of module(s) by use of an oral or written demonstration performance-based test.
- E. Cleanup: Collect and remove used and leftover educational materials from Project Site. Remove instructional equipment. Restore systems and equipment to condition existing before initial orientation use.

3.2 DEMONSTRATION AND ORIENTATION VIDEO RECORDINGS:

- A. All projects:
 1. The Contractor must engage a qualified commercial videographer to video record demonstration and orientation sessions. Record each orientation module separately. Include classroom instructions and demonstrations, board diagrams, and other visual aids, but not student practice.
 2. At the beginning of each orientation module, record each chart containing learning objective and lesson outline.
 3. All recordings must be close-captioned.
 4. Recording Format: Provide high-quality video recording on USB drive or other electronic media as requested by the Commissioner.



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5. Recording: Mount camera on tripod before starting recording, unless otherwise necessary to show area of demonstration and orientation. Display continuous running time.
 6. Narration: Describe scenes on the recording by audio narration by microphone while recording or by dubbing audio narration off-site after. Include description of items being viewed. Describe vantage point, indicating location, direction (by compass point), and elevation or story of construction.
 7. Transcript: Provide a typewritten transcript of the narration. Display images and running time captured from opposite the corresponding narration segment.
- B. Commissioned Projects: Refer to the Addendum to determine if the project is to be commissioned.
1. The Commissioning Authority/Agent (CxA) under separate contract with the City of New York will assess and comment on the adequacy of the orientation instruction sessions by reviewing the orientation and instruction program and agenda provided by the Contractor. The provider of the orientation program will video record the sessions and provide a copy to the CxA for final review and comments. If necessary, Contractor must edit the recording per CxA comments.

END OF SECTION 01 79 00



**SECTION 01 81 13.03
SUSTAINABLE DESIGN REQUIREMENTS FOR LEED v3 BUILDINGS**

REFER TO THE ADDENDUM FOR APPLICABILITY OF THIS SECTION 01 81 13.03

PART I – GENERAL

1.1 RELATED DOCUMENTS:

- A. The following documents apply to all required work for the Project: (1) the Contract Drawings, (2) the Specifications, (3) the General Conditions, (4) the Addendum, and (5) the Contract [City of New York Standard Construction Contract].

1.2 SUMMARY:

A. LEED BUILDING - GENERAL REQUIREMENTS:

The City of New York is committed to implementing good environmental practices and procedures which include achieving a LEED™ Green Building rating. Specific project requirements related to this goal are listed in the applicable paragraphs of this section of the General Conditions. The Contractor must ensure that these requirements, as defined in the sections below and in related sections of the Contract Documents, are implemented to the fullest extent. Substitutions, or other changes to the work proposed by the Contractor or their Subcontractors, will not be allowed if such changes compromise the stated LEED BUILDING criteria.

B. This Section includes:

1. Definitions
2. LEED Provisions
3. LEED Building Submittals
4. LEED Building Submittal Requirements
5. LEED Action Plan

1.3 RELATED SECTIONS: Include without limitation the following:

- | | | |
|----|---------------------|---|
| A. | Section 01 74 19 | CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL |
| B. | Section 01 81 13.13 | VOLATILE ORGANIC COMPOUND (VOC) LIMITS FOR ADHESIVES, SEALANTS, PAINTS AND COATINGS FOR LEED v3 BUILDINGS |
| C. | Section 01 81 19 | INDOOR AIR QUALITY REQUIREMENTS FOR LEED BUILDINGS |
| D. | Section 01 91 13 | GENERAL COMMISSIONING REQUIREMENTS FOR MEP SYSTEMS |
| E. | Section 01 91 15 | GENERAL COMMISSIONING REQUIREMENTS FOR BUILDING ENCLOSURE |

1.4 DEFINITIONS:

- A. Refer to Article 2 of the Contract for definition of terms, words and expressions used in the General Conditions not otherwise defined herein.



Agrifiber Products	Means products derived from recovered agricultural waste fiber from sources such as cereal straw, sugarcane bagasse, sunflower husk, walnut shells, coconut husks, and agricultural prunings, processed and mixed with resins to produce panels with characteristics similar to composite wood.
Composite Wood	Means products composed of wood or plant particles or fibers bonded by a synthetic resin or binder to produce panels such as plywood, particleboard, and medium density fiberboard (MDF). Does not include hardboard, structural panels, glued laminated timber, prefabricated wood I-joists, or finger-jointed lumber.
Design Consultant	Means 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.
Forest Stewardship Council (FSC) Certified Wood	Means wood-based materials and products certified in accordance with the Forest Stewardship Council's principles and criteria.
LEED	Means the Leadership in Energy & Environmental Design rating system developed by the United States Green Building Council.
Rapidly Renewable Materials	Means materials made from agricultural products that are typically harvested within a ten-year or shorter cycle. Rapidly renewable materials include products made from bamboo, cotton, flax, jute, straw, sunflower seed hulls, vegetable oils, or wool.
Regionally Manufactured Materials	Means materials that are manufactured within a radius of 500 miles from the Project location. Manufacturing refers to the final assembly of components into the building product that is installed at the Project site.
Regionally Extracted, Harvested, or Recovered Materials	Means materials which are extracted, harvested, or recovered and manufactured within a radius of 500 miles from the Project site.
Recycled Content	<p>Means The percentage by weight of constituents that have been recovered or otherwise diverted from the solid waste stream, either during the manufacturing process (pre-consumer), or after consumer use (post-consumer).</p> <p>Spills and scraps from the original manufacturing process that are combined with other constituents after a minimal amount of reprocessing for use in further production of the same product are not recycled materials.</p> <p>Discarded materials from one manufacturing process that are used as constituents in another manufacturing process are pre-consumer recycled materials.</p> <p>“Pre-consumer” may also be referred to as “post-industrial”.</p>
Solar Reflectance Index (SRI)	A measure of a material's ability to reflect solar heat, as shown by a small temperature rise. It is defined so that a standard black (reflectance 0.05, emittance 0.90) is equal to 0, and a standard white (reflectance 0.80, emittance of 0.90) is equal to 100.



Volatile Organic Compound (VOC)	Any compound of carbon (excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate) which vaporizes (becomes a gas) and participates in atmospheric photochemical reactions, as specified in Part 51.00 of Chapter 40 of the U.S. Code of Federal Regulations, at normal room temperatures. For the purposes of this specification, formaldehyde and acetaldehyde are considered to be VOCs.
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1.5 LEED PROVISIONS:

- A. Refer to the Addendum for the LEED rating to be achieved for this project. The provisions to achieve this LEED rating are integrated within the project construction documents and specifications. The Contractor is specifically directed to the "LEED BUILDING Performance Criteria" and "LEED BUILDING Submittals" sections within the contract specification. Additional LEED requirements are met through aspects of the project design, including material and equipment selections, which may not be specifically identified as LEED BUILDING requirements. Compliance with the requirements needed to obtain LEED prerequisites and credits will be used as one criterion to evaluate substitution requests.

1.6 LEED BUILDING SUBMITTALS:

- A. Scope: LEED BUILDING submittals are required for all installed materials included in General Construction work. LEED BUILDING Submittals are only required for field-applied adhesives, sealants, paints and coatings included in Plumbing, Mechanical and Electrical work. Submit all required LEED BUILDING submittals in accordance with Section 01 33 00 SUBMITTAL PROCEDURES.
- B. Applicability: The extent of the LEED BUILDING Submittals varies depending on the specification section. Applicable LEED BUILDING Submittals are listed under the "LEED BUILDING Submittals" heading in each specification section. The detailed requirements for the LEED BUILDING Submittals are defined in Item C below.
- C. Detailed Requirements: Sub-Sections 1.6 C.1 through 1.6 C.3 below defines the information and documents to be provided for each type of LEED BUILDING Submittal as identified in the LEED Submittal Requirements of each specification section:
1. ENVIRONMENTAL BUILDING MATERIALS CERTIFICATION FORM (EBMCF)[GHI]: Information to be supplied for this form (blank sample copy attached at end of this Section to be modified as appropriate to the project) must include some or all of the following items, as identified in the LEED Submittal Requirements of each specification section:
 - a. Cost breakdowns for the materials included in the contractor or sub-contractor's scope of work. Cost reporting must include itemized material costs (excluding the contractor's labor, equipment, overhead and profit).
 - b. The percentages (by weight) of post-consumer and/or post-industrial recycled content in the supplied product(s).
 - 1) For each product with recycled content, also indicate the total recycled content value ($1/2 \times \text{pre-consumer percentage} \times \text{product value} + 1 \times \text{post-consumer percentage} \times \text{product value} = \text{total recycled content value}$).
 - 2) See additional requirements for concrete below.
 - c. Identification (Yes/No) of materials manufactured within 500 miles of the project site AND containing raw materials harvested or extracted within 500 miles of the project site.
 - 1) Indicate the percentage by weight, relative to the total weight of the product that meets these criteria.
 - 2) Indicate the point of harvest/extraction/recovery of regional raw materials, the point of final assembly of regional manufactured products, and the distance from each point to the project site.



- d. Volatile Organic Compound (VOC) content of all field-applied adhesives, sealants, paints, and coatings, listed in grams/liter or lbs./gallon, less water.
 - 1) For detailed requirements refer to Section 01 81 13.13 VOC LIMITS FOR ADHESIVES, SEALANTS, PAINTS AND COATINGS.
 - e. The amount of "Forest Stewardship Council (FSC) Certified" wood products if used in the Project.
 - 1) Record only new FSC-certified wood products. Do not record reclaimed, salvaged, or recycled FSC-certified wood products.
 - 2) Reclaimed, salvaged, or recycled FSC-certified wood may be recorded as post-consumer recycled content.
 - f. The amount of Rapidly Renewable materials if used in the Project.
 - 1) Indicate the type of rapidly renewable material used, and the percentage by weight, relative to the total weight of the product, that consists of rapidly renewable material.
 - g. The percentage (by weight), relative to the total weight of cementitious materials, of supplementary cementitious materials or pozzolans such as fly ash used in each concrete mix used in the Project.
 - 1) For each concrete mix, provide a complete breakdown of all components, by weight and by cost.
 - h. Identification (Yes/No) of composite wood or agrifiber products used in the project that are free of added urea-added formaldehyde resins.
 - i. Identification (Yes/No) of flooring products used in the project that have Carpet and Rug Institute (CRI) Green Label or Green Label Plus certification, or Resilient Floor Covering Institute FloorScore certification.
 - 1) Untreated solid wood flooring, and mineral-based flooring products such as tile, masonry, terrazzo, and cut stone that have no organic-based coatings or sealants, are excluded from this requirement.
 - j. The EBMCF must record the above information only for those materials or products permanently installed in the project. The EBMCF must record VOC content, composite and agrifiber products, and CRI or FloorScore ratings only for those materials or products permanently installed within the weather barrier of the LEED building.
2. EBMCF BACK-UP DOCUMENTATION: These documents are used to validate the information provided on the EBMCF (except cost data). For each material listed on the EBMCF, provide documentation to certify the material's LEED BUILDING attributes, as applicable:
- a. RECYCLED CONTENT: Provide published product literature or letter of certification on the manufacturer's letterhead certifying the amounts of post-consumer and/or post-industrial content.
 - b. REGIONAL MANUFACTURING **AND** REGIONAL RAW MATERIALS (WITHIN 500 MILES): Provide published product literature or letter of certification on the manufacturer's letterhead indicating the city/state where the manufacturing plant is located, where each of the raw materials in the product were extracted, harvested or recovered and the distance in miles from the project site.
 - 1) If only some of the raw materials for a particular product or assembly originate within 500 miles of the project site, provide the percentage (by weight) that these materials comprise in the complete product.



- c. **VOC CONTENT:** Provide Material Safety Data Sheets (MSDS) certifying the Volatile Organic Compound (VOC) content of the adhesive, sealant, paint, or coating products. VOC content is to be reported in grams/liter or lbs./gallon, less water. If the MSDS does not show the product's VOC content, this information must be provided through other published product literature from the manufacturer, or stated in a letter of certification from the product manufacturer on the manufacturer's letterhead.
 - d. **RAPIDLY RENEWABLE MATERIALS:** If used in the project, provide published literature or letter of certification on the manufacturer's letterhead certifying the percentage of each product that is rapidly renewable (by weight).
3. **PRODUCT CUT SHEETS:** Provide product cut sheets with the Contractor's or sub-contractor's stamp, confirming that the submitted products are the products installed in the Project.
4. **CRI GREEN LABEL PLUS CERTIFICATION:** For carpets and carpet cushions, provide published product literature or letter from the manufacturer (on the manufacturer's letterhead) verifying that the products comply with the "Green Label Plus" IAQ testing program of the Carpet and Rug Institute of Dalton, GA.
5. **CERTIFICATION OF COMPOSITE WOOD OR AGRIFIBER RESINS:** For all composite wood, engineered wood and agrifiber products (including plywood, particleboard, and medium density fiberboard), provide published product literature or letter from the manufacturer (on the manufacturer's letterhead) verifying that the products do not contain added urea-formaldehyde resins.
6. **CERTIFICATION OF COMPOSITE WOOD OR AGRIFIBER LAMINATING ADHESIVES:** For all laminating adhesives used with composite wood, engineered wood and agrifiber products (e.g., adhesives used to laminate wood veneers to an engineered wood substrate), provide published product literature or letter from the manufacturer (on the manufacturer's letterhead) verifying that the adhesive products do not contain urea-formaldehyde.
7. **FSC-CERTIFIED WOOD:**
 - a. If used in the project, provide chain of custody documents and copies of invoices regarding wood products, including whether or not such wood product is FSC-certified.
 - b. If used in the project, for assemblies, provide the percentage (by cost and by weight) of the assembly that is FSC-certified wood.
 - c. If used in the project, for assemblies, provide published product literature or letter from the manufacturer (on the manufacturer's letterhead) verifying the percentage that is FSC-certified wood.
8. **GREEN SEAL COMPLIANCE:** Provide published product literature or letter from the manufacturer (on the manufacturer's letterhead) verifying that the following product types comply with the VOC limits and chemical component restrictions developed by the Green Seal organization of Washington, DC:
 - a. Interior Architectural Paints and Coatings: refer to Green Seal standard GS-11 (1st edition, May 1993)
 - b. Anti-corrosive and Anti-rust paints: refer to Green Seal standard GC-03 (2nd Edition, January 1997)
 - c. Aerosol Adhesives: refer to Green Seal standard GS-36 (1st edition, October 2000)
9. **HIGH ALBEDO PAVING AND WALKWAY MATERIALS:** For paving and walkway materials made from concrete or brick provide published product literature or letter from the manufacturer (on the manufacturer's letterhead) verifying a minimum Solar Reflectance Index (SRI) value of 29. SRI



values will be calculated according to ASTM E 1980. Reflectance will be measured according to ASTM E 903, ASTM E 1918, or ASTM C 1549. Emittance will be measured according to ASTM E 408 or ASTM C 1371.

10. **HIGH ALBEDO ROOFING MATERIALS:** For exposed roofing membranes, pavers, and ballast products, provide published product literature or letter from the manufacturer (on the manufacturer's letterhead) verifying the following minimum Solar Reflectance Index (SRI) values:

- a. 78 for low-sloped roofing applications (slope \leq 2:12)
- b. 29 for steep-sloped roofing applications (slope $>$ 2:12)

SRI values will be calculated according to ASTM E 1980. Reflectance will be measured according to ASTM E 903, ASTM E 1918, or ASTM C 1549. Emittance will be measured according to ASTM E 408 or ASTM C 1371.

Vegetated roof surfaces are exempt from the SRI criteria.

11. **LOW MERCURY LAMPS:** For all fluorescent, compact fluorescent, and HID lamps installed in the project, provide published product literature or letter from the manufacturer (on the manufacturer's letterhead) verifying:

- a. The mercury content or content range per lamp in milligrams or picograms;
- b. The design light output per lamp (light at 40% of a lamp's useful life) in lumens; and
- c. The rated average life of the lamp in hours.

In addition, provide the total number of each lamp type installed in the project.

12. **FLOORSCORE CERTIFICATION:** For all hard surface flooring, including vinyl, linoleum, laminate flooring, wood flooring, ceramic flooring, rubber flooring, and wall base, provide published product literature or letter from the manufacturer (on the manufacturer's letterhead) verifying that the products comply with the current FloorScore standard requirements.
13. **CONCRETE:** Provide concrete mix design for each mix, designated by a distinct identifying code or number and signed by a Professional Engineer licensed in the state in which the concrete manufacturer or supplier is located.
14. **INTERIOR LIGHTING FIXTURES:** For each lighting fixture type installed within the building's weather barrier, provide manufacturer's cut sheets indicating the following:
- a. Fixture power in watts.
 - b. Initial lamp lumens.
 - c. Photometric distribution data.
 - d. Dimming capability, in range of percentages.
15. **EXTERIOR LIGHTING FIXTURES:** For each lighting fixture type installed on site, provide manufacturer's cut sheets indicating the following:
- a. Fixture power in watts.
 - b. Initial lamp lumens.
 - c. Photometric distribution data.
 - d. Range of field adjustability, if any.
 - e. Warranty of suitability for exterior use.



16. **ALTERNATIVE TRANSPORTATION:** Provide manufacturer's cut sheets and/or shop drawings for the following items installed on site:
 - a. Bike racks, including total number of bicycle slots provided.
 - b. Signage indicating parking spaces reserved for electric or low-emitting vehicles and for carpools/vanpools, including total number of signs.
17. **WATER CONSERVING FIXTURES:** For all water consuming plumbing fixtures and fittings, provide manufacturer's cut sheets showing maximum flow rates and/or flush rates.
18. **ENERGY SAVING APPLIANCES:** Provide manufacturer's cut sheets and published product literature or letter from the manufacturer (on the manufacturer's letterhead) verifying the product's rating under the U.S. EPA/DOE Energy Star program, for all of the following:
 - a. Appliances (i.e., refrigerators, dishwashers, microwave ovens, televisions, clothes washers, clothes dryers, chilled water dispensers).
 - b. Office equipment (i.e., copy machines, fax machines, plotters/printers, scanners, binding and publishing equipment).
 - c. Electronics (i.e., servers, desktop computers, computer monitor displays, laptop computers, network equipment).
 - d. Commercial food service equipment
19. **GLAZING:** For glazing in any windows, doors, storefront and window wall systems, curtainwall systems, skylights, and partitions, provide manufacturer's cut sheets indicating the following:
 - a. Glazed area.
 - b. Visible light transmittance.
 - c. Solar heat gain coefficient.
 - d. Fenestration assembly u-factor.
20. **VENTILATION:** Provide manufacturer's cut sheets for the following:
 - a. Carbon dioxide monitoring systems, if any, installed to measure outside air delivery.
 - b. Air filters: for detailed requirements refer to Section 01 81 19 INDOOR AIR QUALITY REQUIREMENTS.
21. **REFRIGERATION:** For all refrigeration equipment, provide manufacturer's cut sheets indicating the following:
 - a. Equipment type.
 - b. Equipment life. Default values specified by the 2007 ASHRAE Applications Handbook will be used unless otherwise demonstrated by the manufacturer's guarantee and an equivalent long-term service contract.
 - c. Refrigerant type.
 - d. Refrigerant charge in pounds of refrigerant per ton of gross cooling capacity.
 - e. Tested refrigerant leakage rate, in percent per year. A default rate of 2% will be used unless otherwise demonstrated by test data.
 - f. Tested end-of-life refrigerant loss, in percent. A default rate of 10% will be used unless otherwise demonstrated by test data.



1.7 LEED BUILDING SUBMITTAL REQUIREMENTS:

- A. The LEED BUILDING Submittal information must be assembled into one package per contract specification section(s) (or per subcontractor), and submitted in accordance with Section 01 33 00 SUBMITTAL PROCEDURES. Incomplete or inaccurate LEED BUILDING submittals may be used as the basis for the rejection of products or assemblies. Incomplete or inaccurate LEED BUILDING Submittals may be used as the basis for rejecting the submitted products or assemblies.

1.8 LEED ACTION PLANS:

- A. Construction Waste Management Plan- Refer to Section 01 74 19 CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL for detailed submittal requirements.
- B. Construction IAQ Management Plan- Refer to Section 01 81 19 INDOOR AIR QUALITY REQUIREMENTS FOR LEED BUILDINGS for detailed submittal requirements.
- C. Erosion and Sedimentation Control Plan:
 - 1. The Plan must be in accordance with the New York State Department of Environmental Conservation (NYSDEC) or the 2003 EPA Construction General Permit, whichever is more stringent.
 - 2. The Plan must be submitted in accordance with Section 01 33 00 SUBMITTAL PROCEEDURES.
 - 3. Detailed requirements: ESC Plan
 - a. Include the Stormwater Pollution Prevention Plan, if required.
 - b. Identify the party responsible for Plan monitoring and documentation. The party must be regularly on site.
 - c. Describe all site work that will be implemented on the project.
 - d. Provide site plan with location of ESC measures, including, but not limited to, stormwater quantity controls, stormwater quality controls, stabilized construction entrances, washdown areas, and inlet/catch basin protection.
 - e. Describe the inspection and maintenance of the ESC measures. Provide a construction schedule indicating weekly site review.
 - f. Describe reporting and documentation measures.
 - 4. Detailed requirements: ESC Measures
 - 5. Submittal requirements: ESC Tracking Log
 - a. Note date of major rain events, describe damage, describe any repairs or maintenance performed, and note responsible party.
 - b. Note date and findings of weekly site review, describe any repairs or maintenance performed, and note responsible party.
 - c. Submit monthly.
 - 6. Implementation
 - a. The Contractor must implement the ESC Plan, coordinate the Plan with all affected trades, and designate one individual as the Erosion and Sedimentation Control Representative, who will be responsible for communicating the progress of the Plan with the Commissioner on a regular basis, and for assembling the required LEED documentation.



- b. The Contractor must be responsible for the provision, maintenance, and repair of all ESC measures.
- c. Demonstration. The Contractor must provide on-site instruction of proper construction practices required to prevent erosion and sedimentation.
- d. Meetings. Urgent or ongoing ESC issues will be discussed at weekly on-site job meetings.

1.9 QUALITY ASSURANCE:

- A. The Contractor must implement all LEED Action Plans, coordinate the Plans and LEED Building Submittals with all affected trades, and designate one individual as the Sustainable Construction Representative at no additional cost to the City of New York, who will be responsible for communicating the progress of LEED activities with the Commissioner on a regular basis, and for assembling the required LEED documentation.
- B. Responsibilities of Contractor's Subcontractors: The Contractor is responsible for his/her subcontractors complying with the LEED Action Plans and for providing required LEED documentation as required for the project.
- C. Distribution and Compilation: The Contractor is responsible for distributing the EBMCF and any other forms or templates required for the subcontractors to record LEED documentation. The Contractor also be responsible for collecting and compiling EBMCF information into packages as described in Section 01 33 00 SUBMITTAL PROCEDURES.
- D. Meetings: Sustainable design and construction issues must be discussed at the following meetings:
 - 1. Demolition kick-off meeting
 - 2. Construction kick-off meeting
 - 3. Construction kick-off meeting for LEED (independent meeting)
 - 4. Weekly job-site progress and coordination meetings
 - 5. Closeout meeting

PART II – PRODUCTS (Not Used)

PART III – EXECUTION (Not Used)

END OF SECTION 01 81 13.03



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ENVIRONMENTAL BUILDING MATERIALS CERTIFICATION FORM

Contractor Name: _____
Contractor Contact: _____
Telephone Number: _____

Project Name: _____
Project I.D.: _____

Product/Manufacturer	Material Cost ¹	Recycled Content			Regional ⁴			Rapidly Renewable ⁷		VOC content ⁸		Flooring ⁹	Wood	
		Pre-Consumer (% by wt) ²	Post-Consumer (% by wt) ³	Total % (½ Pre + Post)	Location & Distance to Extraction ⁵	Location & Distance to Manufacture ⁶	Extracted & Manuf. (% by wt)	Material	% by wt	*VOC content listed	*VOC content allowed	*Green Label or FloorScore	*Added urea formaldehyde (Yes/No) ¹⁰	FSC Certified ¹¹ (% by wt)

¹ **Material Cost:** As it appears on the manufacturer's or distributor's invoice to the contractor or subcontractor. Does not include labor or equipment costs associated with installation.

² **Pre-Consumer Recycled Content:** Industrial/manufacturing waste material (e.g., fly-ash and synthetic gypsum, both waste products from coal burning electricity plants) diverted from landfill and incorporated into a finished product. Scrap raw materials that can be reused in the same manufacturing process from which they are recovered are not considered Pre-Consumer Recycled Content.

³ **Post-Consumer Recycled Content:** Material or product that has served its intended consumer use (e.g., an empty plastic bottle) and has been diverted from landfill and incorporated into a finished product.

⁴ **Regional:** Refers to a material/product that is BOTH extracted AND manufactured within 500 miles of the Project site. Record this information ONLY for materials/products meeting BOTH of these criteria.

⁵ **Extraction:** Refers to the location from which the raw resources used in a building product are extracted, harvested, or recovered.

⁶ **Manufacture:** Refers to the location of the final assembly of components into a building product that is furnished and installed by the Contractor.

⁷ **Rapidly Renewable:** Refers to materials/products derived from agricultural products that are typically harvested within a ten-year or shorter cycle.

⁸ **VOC Content:** The quantity of volatile organic compounds contained in adhesives, sealants, paints and architectural coatings. Reported in grams/liter or lbs/gallon, less water.

⁹ **Flooring:** For carpet, indicate Carpet and Rug Institute (CRI) Green Label Plus certification. For carpet cushion, indicate CRI Green Label certification. For all flooring except unfinished/untreated wood and mineral-based flooring (tile, masonry, terrazzo, cut stone) without organic-based coatings or sealants, indicate Resilient Floor Covering Institute FloorScore rating. VOC limits for adhesives, sealants, etc. still apply.

¹⁰ **Added Urea Formaldehyde:** Applies to composite wood and agrifiber products only (plywood, particleboard, MDF, OSB, wheatboard, strawboard). Resins or binders with added urea formaldehyde are prohibited.

¹¹ **FSC Certified:** Certification from the Forest Stewardship Council. This column is only applicable to wood products.

* Applies only to materials/products installed within the weather barrier.

Contractor Certification:

I, _____ a duly authorized representative of _____ (the Contractor) hereby certify that the material information contained herein is an accurate representation of the material qualifications to be provided by the Contractor as components of the final building construction. Furthermore, I understand that any change in such qualifications during the purchasing period will require prior written approval from the Commissioner.

Signature of Authorized Representative: _____ Date: _____



SECTION 01 81 13.04

SUSTAINABLE DESIGN REQUIREMENTS FOR LEED v4 BUILDINGS

REFER TO THE ADDENDUM FOR APPLICABILITY OF THIS SECTION 01 81 13.04

PART I – GENERAL

1.1 RELATED DOCUMENTS:

- A. The following documents apply to all required work for the Project: (1) the Contract Drawings, (2) the Specifications, (3) the General Conditions, (4) the Addendum, and (5) the Contract [City of New York Standard Construction Contract].

1.2 SUMMARY:

A. LEED BUILDING - GENERAL REQUIREMENTS:

The City of New York is committed to implementing good environmental practices and procedures which include achieving a LEED™ Green Building rating. Specific Project requirements related to this goal are listed in the applicable paragraphs of this section of the General Conditions. The Contractor must ensure that these requirements as defined in the sections below and in related sections of the Contract Documents, are implemented to the fullest extent. Substitutions, or other changes to the work proposed by the Contractor or their Subcontractors, will not be allowed if such changes compromise the stated LEED BUILDING criteria.

B. This Section includes:

1. Definitions
2. LEED Provisions
3. LEED Building Submittals
4. LEED Building Submittal Requirements
5. LEED Action Plan
6. VOC Requirements for Interior Adhesives and Sealants
7. VOC Requirements for Interior Paints and Coatings
8. Low-Emitting Materials, Flooring
9. Low-Emitting Materials, Composite Wood
10. Low-Emitting Materials, Ceilings, Walls, Thermals and Acoustic Insulation
11. Low-Emitting Materials, Furniture
12. Low-Emitting Materials, Exterior Applied Products
13. Low-Emitting Materials, Additional Low-Emitting Requirements

C. This Section includes requirements for Volatile Organic Compound (VOC) emissions and content in specific materials used within the Project.

D. All sections in the Project Specifications with adhesives, sealant or sealant primer applications, paints, coatings, flooring, composite wood, ceilings, walls, thermal and acoustic insulation, furniture, and for healthcare and schools, exterior applied products, must follow all requirements of this section. In the event of any conflict or inconsistency between this section and the Specifications regarding adhesives, sealant or sealant applications, paints, coatings, flooring, composite wood, ceilings, walls, thermal and acoustic insulation, furniture, and for healthcare and schools, exterior applied products, the requirements set forth in this Section will prevail.



1.3 RELATED SECTIONS: Include without limitation the following:

- | | | |
|----|------------------|---|
| A. | Section 01 74 19 | CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL |
| B. | Section 01 81 19 | INDOOR AIR QUALITY REQUIREMENTS FOR LEED BUILDINGS |
| C. | Section 01 91 13 | GENERAL COMMISSIONING REQUIREMENTS FOR MEP SYSTEMS |
| D. | Section 01 91 15 | GENERAL COMMISSIONING REQUIREMENTS FOR BUILDING ENCLOSURE |

1.4 DEFINITIONS:

- A. Refer to Article 2 of the Contract for definition of terms, words and expressions used in the General Conditions not otherwise defined herein.

Adhesive	Any substance used to bond one surface to another by attachment. Includes adhesive primers and adhesive bonding primers.
Aerosol Adhesive	Any adhesive packaged as an aerosol with a spray mechanism permanently housed in a non-refillable can designed for hand-held application without the need for ancillary equipment
Agrifiber Products	Products derived from recovered agricultural waste fiber from sources such as cereal straw, sugarcane bagasse, sunflower husk, walnut shells, coconut husks and agricultural prunings, processed and mixed with resins to produce panels with characteristics similar to composite wood.
Bio-based materials	Composed in whole or in significant part of biological products, renewable agricultural materials or forestry materials, and must meet the Sustainable Agriculture Network's Sustainable Agriculture Standard. Bio-based raw materials must be tested using ASTM Test Method D6866 and be legally harvested, as defined by the exporting and receiving country. Exclude hide products, such as leather and other animal skin material.
Building Exterior	A structure's primary and secondary weatherproofing system, including waterproofing membranes and air- and water-resistant barrier materials, and all building elements outside that system.
Building Interior	Everything inside a structure's weatherproofing membrane.
Carcinogen	A chemical listed as a known, probable, reasonably anticipated, or possible human carcinogen by the International Agency for Research on Cancer



	(IARC) (Groups 1, 2A, and 2B), the National Toxicology Program (NTP) (Groups 1 and 2), the U.S. Environmental Protection Agency (EPA) Integrated Risk Information System (IRIS) (weight-of-evidence classifications A, B1, B2, and C, carcinogenic, likely to be carcinogenic, and suggestive evidence of carcinogenicity or carcinogen potential), or the Occupational Safety and Health Administration (OSHA).
Certified Wood	See Forest Stewardship Council (FSC) Certified Wood.
Clear Wood Finish	Clear/semi-transparent coating applied to wood substrates to provide a transparent or translucent solid film.
Coating	Liquid, liquefiable or mastic composition that is converted to a solid adherent film after application to a substrate as a thin layer; and is used for decorating, protecting, identifying or to serve some functional purpose such as the filling or concealing of surface irregularities or the modification of light and heat radiation characteristics; and is intended for on-site application to interior or exterior surfaces of buildings. Does not include stains, clear finishes, recycled latex paint, specialty (industrial, marine or automotive) coatings or paint sold in aerosol cans.
Composite Wood	Products composed of wood or plant particles or fibers bonded by a synthetic resin or binder to produce panels such as plywood, particleboard, and medium density fiberboard (MDF). Does not include hardboard, structural panels, glued laminated timber, prefabricated wood I-joists or finger-jointed lumber.
Cradle-to-Gate Assessment	Analysis of a product's partial life cycle, from resource extraction to the factory gate, before it is transported for distribution and sale.
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.



Enclosure	The exterior plus semi-exterior portions of the building. Exterior consists of the elements of a building that separate conditioned spaces from the outside (i.e., the wall assembly). Semi-exterior consists of the elements of a building that separate conditioned space from unconditioned space or that encloses semi-heated space through which thermal energy may be transferred to or from the exterior or conditioned or unconditioned spaces (e.g., attic, crawl space, basement).
Environmental Product Declaration (EPD)	A statement that the item meets the environmental requirements of, ISO 14025, 14040 and EN 15804, or ISO 21930 and have at least a cradle-to-gate scope.
Extended Producer Responsibility	A waste management strategy, also known as closed-loop program or product take-back, where the manufacturer's responsibility for a product is extended to the post-consumer stage of the product's life-cycle.
Floor Coating	Opaque coating applied to flooring. Excludes industrial maintenance coatings.
Forest Stewardship Council (FSC) Certified Wood	Wood-based materials and products certified in accordance with the Forest Stewardship Council's principles and criteria.
Hazardous Air Pollutant	Any compound listed by the U.S. EPA in the Clean Air Act Section 112(b)(1) as a hazardous air pollutant.
Inherently Non-Emitting Materials	Products that are inherently non-emitting sources of VOCs, including stone, ceramic, powder-coated metals, plated or anodized metals, lass, concrete, clay brick, unfinished solid wood, untreated solid wood. These materials are considered compliant without VOC testing if they do not include integral organic-based surface coatings, binders or sealants.
Lacquer	Clear/semi-transparent coating formulated with cellulosic or synthetic resins to dry by evaporation without chemical reaction and provide a solid, protective film.



LEED	The Leadership in Energy & Environmental Design rating system developed by the United States Green Building Council (USGBC).
Life-Cycle Assessment	An evaluation of the environmental effects of a product from cradle to grave, as defined by ISO 14040-2006 and ISO 14044-2006.
Mutagen	A chemical that meets the criteria for category 1, chemicals known to induce heritable mutations or to be regarded as if they induce heritable mutations in the germ cells of humans, under the Harmonized System for the Classification of Chemicals Which Cause Mutations in Germ Cells (United Nations Economic Commission for Europe, Globally Harmonized System of Classification and Labeling of Chemicals).
Ozone-Depleting Compounds	A compound with an ozone-depletion potential greater than 0.1 (CFC 11=1) according to the U.S. EPA list of Class I and Class II Ozone-Depleting Substances.
Paint	<p>A pigmented coating. For the purposes of this specification, paint primers are considered to be paints.</p> <p>A. Flat Coating or Paint: Has a gloss of less than 15 (using an 85-degree meter) or less than 5 (using a 60-degree meter).</p> <p>B. Non-Flat Coating or Paint: Has a gloss of greater than or equal to 15 (using an 85-degree meter) or greater than or equal to 5 (using a 60-degree meter).</p> <p>C. Non-Flat High-Gloss Coating or Paint: Has a gloss of greater than or equal to 70 (using a 60-degree meter).</p> <p>Anti-Corrosive / Rust Preventative Paint: Coating formulated and recommended for use in preventing the corrosion of ferrous metal substrates.</p>
Permanently Installed Building Product	See Product.
Primer	Coating that is formulated and recommended for one or more of the following purposes: to provide a firm bond between the substrate and a subsequent coating; to prevent a subsequent coating from being absorbed into the substrate; to prevent harm to a subsequent coating from materials in the



	substrate; or to provide a smooth surface for application of a subsequent coating.
Product	An item that arrives on the Project site either as a finished element ready for installation or as a component to another item assembled on-site. The product unit is defined by the functional requirement for use in the Project; this includes the physical components and services needed to serve the intended function of the permanently installed building product. Similar products within a specification will each contribute as a separate product.
Product-Specific Declaration	Products with a publicly available, critically reviewed life-cycle assessment conforming to ISO 14044 that have at least a cradle-to-gate scope.
Recycled Content	<p>The percentage by weight of constituents that have been recovered or otherwise diverted from the solid waste stream, either during the manufacturing process (pre-consumer) or after consumer use (post-consumer). Recycled content claims for products must conform to the definition in ISO 14021-1999, Environmental Labels and Declarations, Self-Declared Environmental Claims (Type II Environmental Labeling).</p> <p>Spills and scraps from the original manufacturing process that are combined with other constituents after a minimal amount of reprocessing for use in further production of the same product are not recycled materials.</p> <p>Discarded materials from one manufacturing process that are used as constituents in another manufacturing process are pre-consumer recycled materials.</p> <p>“Pre-consumer” may also be referred to as “post-industrial”.</p>
Regionally Manufactured Materials	Materials that are manufactured, distributed and purchased within a radius of 100 miles from the



	Project location. Manufacturing refers to all points of manufacture for an assembly of components.
Regionally Extracted, Harvested, or Recovered Materials	Materials which are extracted, harvested or recovered, manufactured, distributed and purchased within a radius of 100 miles from the Project site.
Reproductive Toxin	A chemical listed as a reproductive toxin (including developmental, female, and male toxins) by the State of California under the Safe Drinking Water and Toxic Enforcement Act of 1986 (California Code of Regulations, Title 22, Division 2, Subdivision 1, Chapter 3, Sections 1200, et. Seq.).
Sanding Sealer	Clear/semi-transparent coating formulated to seal bare wood. Can be abraded to create a smooth surface for subsequent coatings. Does not include sanding sealers that are lacquers (see Clear Wood Finish above).
Sealant	Any material with adhesive properties, formulated primarily to fill, seal, or waterproof gaps or joints between surfaces. Includes sealant primers and caulks.
Shellac	Clear or pigmented coating formulated solely with the resinous secretions of the lac beetle, thinned with alcohol and formulated to dry by evaporation without chemical reaction. Excludes floor applications.
Solar Reflectance Index (SRI)	A measure of a material's ability to reflect solar heat, as shown by a small temperature rise. It is defined so that a standard black (reflectance 0.05, emittance 0.90) is equal to 0, and a standard white (reflectance 0.80, emittance of 0.90) is equal to 100.
Stain	Clear semi-transparent/opaque coating formulated to change the color but not conceal the grain pattern or texture of the substrate.
Varnish	Clear/semi-transparent coating, excluding lacquers and shellacs, formulated to dry by chemical reaction on exposure to air. May contain small amounts of pigment.
Volatile Aromatic Compound	Any hydrocarbon compound containing one or more 6-carbone benzene rings, and having an initial boiling point less than or equal to 280 degrees



	Celsius measured at standard conditions of temperature and pressure.
Volatile Organic Compound (VOC)	Any compound of carbon (excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates and ammonium carbonate) which vaporizes (becomes a gas) and participates in atmospheric photochemical reactions, as specified in Part 51.00 of Chapter 40 of the U.S. Code of Federal Regulations, at normal room temperatures. For the purposes of this specification, formaldehyde and acetaldehyde are considered to be VOCs. Waterproofing Sealer: A coating that prevents the penetration of water into porous substrates.

1.5 LEED PROVISIONS:

- A. Refer to the Addendum for the LEED rating to be achieved for this Project. The provisions to achieve this LEED rating are integrated within the Project construction documents and specifications. Additional LEED requirements are met through aspects of the Project design, including material and equipment selections, which may not be specifically identified as LEED Building requirements. Compliance with the requirements needed to obtain LEED prerequisites and credits will be used as one criterion to evaluate substitution requests.

1.6 LEED BUILDING SUBMITTALS:

- A. Scope: LEED Building Submittals are required for all permanently installed materials included in General Construction work. For Plumbing, Mechanical and Electrical work, LEED Building Submittals are only required for field-applied adhesives, sealants, paints and coatings. Voluntary inclusion of system components such as piping, pipe insulation, ducts, conduits, plumbing fixtures, faucets and lamp housings must be consistently applied to the Project's LEED credits. Submit all required LEED Building Submittals in accordance with Section 01 33 00 SUBMITTAL PROCEDURES.
- B. Applicability: The extent of the LEED Building Submittals varies depending on the specification section. Applicable LEED Building Submittals are listed under the "LEED Building Submittals" heading in each specification section. The detailed requirements for the LEED Building Submittals are defined in Sub-Section 1.6 C below.
- C. Detailed Requirements: Sub-Sections 1.6 C.1 through 1.6 C.18 below define the information and documents to be submitted for each type of LEED Building Submittal as identified in the LEED Building Submittals heading in each specification section:
1. LEED v4 Material and Resources (MR) Credits Calculator for Building Product Disclosure and Optimization (Disclosure and Optimization Calculator): With each submittal of a product permanently installed in the Project, the Contractor is responsible for the completion of the Disclosure and Optimization Calculator, which can be found on USGBC's website. The Contractor must maintain an updated Disclosure and Optimization Calculator for all applicable products throughout the Project duration and submit the updated calculator on a monthly basis.



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- a. The Disclosure and Optimization Calculator will record the information outlined in Items b.-c. below for all permanently installed products, the information outlined in Item d. below for all permanently installed concrete mixes, and the information outlined in Items e.-i. below for all permanently installed products that have the content, disclosure or optimization characteristics described herein:
- b. Cost breakdowns for the materials included in the Contractor or subcontractor's scope of work. Cost reporting must include itemized material costs (excluding the Contractor's labor, equipment, overhead and profit).
- c. The percentages (by weight) of post-consumer and/or post-industrial recycled content in the supplied product(s).
 - 1) For each product with recycled content, also indicate the total recycled content value ($\frac{1}{2} \times \text{pre-consumer percentage} \times \text{product value} + 1 \times \text{post-consumer percentage} \times \text{product value} = \text{total recycled content value}$).
 - 2) See additional requirements for concrete in section 1.6.C.1.d below.
- d. The percentage (by weight), relative to the total weight of cementitious materials, of supplementary cementitious materials or pozzolans such as fly ash used in each concrete mix used in the Project.
 - 1) For each concrete mix, submit a complete breakdown of all components, by weight and by cost.
- e. Identification (Yes/No) of materials manufactured, distributed and purchased within 100 miles of the Project site AND containing raw materials harvested or extracted within 100 miles of the Project site, if used in the Project, as well as the following information:
 - 1) Indicate the percentage by weight, relative to the total weight of the product that meets these criteria.
 - 2) Indicate the point of harvest/extraction/recovery of regional raw materials, the point of final assembly of regional manufactured products, and the distance from each point to the Project site.
- f. The percentage (by cost) of "Forest Stewardship Council (FSC) Certified" wood products, if used in the Project.
 - 1) Record all new wood products, indicating which are FSC-certified. Do not record reclaimed, salvaged, or recycled FSC-certified wood products.
 - 2) Reclaimed, salvaged, or recycled FSC-certified wood may be recorded as post-consumer recycled content.
- g. The number or percentage of products with Environmental Product Declarations (EPD), with fractional or multiplied values as indicated below. If a product used in the Project has an EPD Declaration, submit one of the following:
 - 1) EPD:
 - i. Product-Specific Declaration: Valued as one quarter ($\frac{1}{4}$) of a product
 - ii. Industry-Wide (Generic) EPD: Valued as one half ($\frac{1}{2}$) of a product
 - iii. Product-Specific Type III EPD: Valued as one whole product
 - 2) Documentation of third-party certification of impact reduction below industry average for at least three of the following categories, valued at 100%:
 - i. Global warming potential (greenhouse gases), in CO₂e;
 - ii. Depletion of the stratospheric ozone layer, in kg CFC-11;
 - iii. Acidification of land and water sources, in moles H⁺ or kg SO₂;
 - iv. Eutrophication, in kg nitrogen or kg phosphate;
 - v. Formation of tropospheric ozone, in kg NO_x or kg ethene; and depletion of nonrenewable energy resources, in MJ.
 - 3) For 1) and 2) above, if a product is also sourced (extracted, manufactured, purchased) within 100 miles of the site, it is valued as two times the whole product.



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- 4) For 1) and 2) above, structure and enclosure materials may not constitute more than 30% of the value of compliant building products.
- h. The number or percentage of products for which Sourcing of Raw Materials has been documented, with fractional or multiplied values as indicated below. If a product used in the Project has documented Sourcing of Raw Materials, submit one of the following:
 - 1) Corporate sustainability report (CSR). Submit one of the following:
 - i. Manufacturer's self-declared report: valued as half of a product
 - ii. Third-party verified CSR which include environmental impacts of extraction operations and activities associated with the manufacturer's product and the product's supply chain: valued as one whole product:
 1. Global Reporting Initiative (GRI) Sustainability Report
 2. Organisation for Economic Co-operation and Development (OECD) Guidelines for Multinational Enterprises
 3. U.N. Global Compact: Communication of Progress
 4. ISO 26000: 2010 Guidance on Social Responsibility
 5. Other USGBC approved programs meeting the CSR criteria
 - 2) Documentation of at least one of the responsible extraction criteria below:
 - i. Extended producer responsibility program, valued as half of a product
 - ii. Bio-based materials, valued as one whole product
 - iii. Certified Wood: Wood-based materials include all materials made from wood, including engineered wood products and wood-based panel products, valued as one whole product
 - iv. Material Reuse: Materials may be salvaged, refurbished, or reused, valued as one whole product.
 - v. Recycled content. The sum of post-consumer recycled content plus one-half the pre-consumer recycled content, based on cost, valued as one whole product.
 - vi. Other USGBC approved programs meeting leadership extraction criteria
 - 3) For 1) and 2) above, if a product is also sourced (extracted, manufactured, purchased) within 100 miles of the site: valued as two times the whole product.
 - 4) For 1) and 2) above, structure and enclosure materials may not constitute more than 30% of the value of compliant building products. Products meeting multiple criteria may only be counted once.
- i. The number or percentage of products for which Material Ingredients have been disclosed, with fractional or multiplied values as indicated below. If a product used in the Project discloses its Material Ingredients, submit one of the following:
 - 1) Chemical inventory of the product to at least 0.1% (1000 ppm), documented by one of the following:
 - i. Manufacturer Inventory
 - ii. Health Product Declarations (HPDs)
 - iii. Cradle to Cradle (C2C) certifications
 - iv. Declare product labels
 - v. ANSI/BIFMA e3 Furniture Sustainability Standard (Furniture may be included, providing it is included consistently in all MR Credits.)
 - 2) Documentation of compliance with one of the following material ingredient optimization criteria programs:
 - i. GreenScreen benchmarks
 - ii. Cradle to Cradle certifications



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- iii. REACH optimizations
 - iv. Other USGBC approved programs meeting building product optimization criteria
 - 3) Documentation that the product is sourced from a manufacturer that meets all of the below supply chain optimization criteria:
 - i. Manufacturer engages in validated and robust safety, health, hazard and risk programs which at a minimum document at least 99% (by weight) of the ingredients used to make the building product or building material
 - ii. Manufacturer provides independent third party verification of the following conditions for their supply chain, at a minimum:
 - 1. Processes are in place to communicate and transparently prioritize chemical ingredients along the supply chain according to available hazard, exposure and use information to identify those that require more detailed evaluation
 - 2. Processes are in place to identify, document, and communicate information on health, safety and environmental characteristics of chemical ingredients
 - 3. Processes are in place to implement measures to manage the health, safety and environmental hazard and risk of chemical ingredients
 - 4. Processes are in place to optimize health, safety and environmental impacts when designing and improving chemical ingredients
 - 5. Processes are in place to communicate, receive and evaluate chemical ingredient safety and stewardship information along the supply chain
 - 6. Safety and stewardship information about the chemical ingredients is publicly available from all points along the supply chain
 - 4) For 2) and 3) above, if a product is also sourced (extracted, manufactured, purchased) within 100 miles of the site: valued as two times the whole product. Products compliant with both 2) and 3) may only be counted once.
 - 5) For 1), 2), and 3) above, structure and enclosure materials may not constitute more than 30% of the value of compliant building products.
2. LEED v4 Indoor Environmental Quality Credit Low-Emitting Materials Calculator (EQ Calculator). With each relevant product submittal, the Contractor is responsible for the completion of the EQ Calculator, which can be found on USGBC's website. The Contractor must maintain an updated EQ Calculator throughout the Project duration for all applicable products and submit the updated calculator on a monthly basis.
- a. The EQ Calculator must record information for all relevant products as outlined below. Include the following documentation. Detailed requirements are listed in b. – j. below.
 - 1) Volume used of all field applied interior adhesives, sealants, paints & coatings.
 - 2) VOC content of all field-applied interior adhesives, sealants, paints, and coatings, listed in grams/liter or lbs./gallon, less water.
 - 3) General Emissions Evaluation for more than 90 percent of all field-applied interior paints, coatings, adhesives, and sealants, by volume, and for 100 percent of all flooring, ceilings, walls, and thermal and acoustic insulation.
 - 4) Composite Wood Evaluation for all composite wood not covered by other categories.
 - 5) Furniture Evaluation for 90% of all furniture, by cost.
 - 6) For schools/healthcare only: Exterior-Applied Products Evaluation for 90% of all exterior applied materials, measured by volume. All batt insulation products must contain no added formaldehyde.



- b. VOC REQUIREMENTS, GENERAL: The following materials must meet the listed compliance requirements for emissions and content standards, for all applicable categories. All products must comply with each applicable threshold requirement. Refer to LEED BD+C Reference Guide, EQ Credit Low-Emitting Materials for additional guidance.
- 1) General Emissions Requirements: Products must demonstrate they have been tested and determined compliant in accordance with California Department of Public Health (CDPH), Standard Method v1.1-2010 or v1.2-2017, using the applicable exposure scenario, and stating the range of total VOCs (TVOC) after 14 days measured as specified in the CDPH Standard Method v1.1 as follows:
 - i. 0.5mg/m³ or less;
 - ii. between 0.5 and 5.0 mg/m³; or,
 - iii. 0.50 mg/m³ or more
 - 2) No product may contain any ingredients that are carcinogens, mutagens, reproductive toxins, persistent bioaccumulative compounds, hazardous air pollutants, or ozone-depleting compounds. An exception will be made for titanium dioxide and, for products that are pre-tinted by the manufacturer, carbon black, which must be less than or equal to 1% by weight of the product.
 - 3) No product may contain the following:
 - i. methylene chloride
 - ii. 1,1,1-trichloroethane
 - iii. benzene
 - iv. toluene
 - v. ethylbenzene
 - vi. vinyl chloride
 - vii. naphthalene
 - viii. 1,2-dichlorobenzene
 - ix. di (2-ethylhexyl) phthalate
 - x. butyl benzyl phthalate
 - xi. di-n-butyl phthalate
 - xii. di-n-octyl phthalate
 - xiii. diethyl phthalate
 - xiv. dimethyl phthalate
 - xv. isophorone
 - xvi. antimony
 - xvii. cadmium
 - xviii. hexavalent chromium
 - xix. lead
 - xx. mercury
 - xxi. formaldehyde
 - xxii. methyl ethyl ketone
 - xxiii. methyl isobutyl ketone
 - xxiv. acrolein
 - xxv. acrylonitrile
 - 4) No product may contain more than 1.0% by weight of sum total of volatile aromatic compounds.
- c. VOC REQUIREMENTS FOR INTERIOR ADHESIVES AND SEALANTS:
- 1) For field applications that are inside the weatherproofing system, use adhesives and sealants that comply with the following limits for VOC content when calculated according to South Coast Air Quality Management District (SCAQMD) Rule #1168 requirements in effect on July 1, 2005, and rule amendment date January 7, 2005:



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	Allowable VOC Content (g/L):
Architectural Applications:	
Indoor carpet adhesives	50
Carpet pad adhesives	50
Outdoor carpet adhesives	150
Wood flooring adhesives	100
Rubber floor adhesives	60
Subfloor adhesives	50
Ceramic tile adhesives	65
VCT and asphalt tile adhesives	50
Dry wall and panel adhesives	50
Cove base adhesives	50
Multipurpose construction adhesives	70
Structural glazing adhesives	100
Single ply roof membrane adhesives	250
Specialty Applications:	
PVC welding	510
CPVC welding	490
ABS welding	325
Plastic cement welding	250
Adhesive primer for plastic	550
Computer diskette manufacturing	350
Contact adhesive	80
Special purpose contact adhesive	250
Tire retread	100
Adhesive primer for traffic marking tape	150
Structural wood member adhesive	140
Sheet applied rubber lining operations specialty	850
Top and Trim adhesive	250
Substrate Specific Applications:	
Metal to metal substrate specific adhesives	30
Plastic foam substrate specific adhesives	50
Porous material (except wood) substrate specific adhesives	50
Wood substrate specific adhesives	30
Fiberglass substrate specific adhesives	80
Sealants:	
Architectural sealant	250
Marine deck sealant	760
Nonmember roof sealant	300
Roadway sealant	250
Single-ply roof membrane sealant	450
Other sealant	420
Sealant Primers:	
Architectural non-porous sealant primer	250
Architectural porous sealant primer	775
Modified bituminous sealant primer	500
Marine deck sealant primer	760
Other sealant primer	750



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Other	
Other adhesives, adhesive bonding primers, adhesive primers or any other primers	250

- 2) For field applications that are inside the weatherproofing system, a minimum of 90 percent of adhesives and sealants, by volume, must comply with the requirements of the CDPH "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers."

d. VOC REQUIREMENTS FOR INTERIOR PAINTS AND COATINGS:

- 1) For field applications that are inside the weatherproofing system, use paints and coatings that comply with the following limits for VOC content when calculated according to the California Air Resources Board (CARB) 2007, Suggested Control Measure (SCM) for Architectural Coatings, or the SCAQMD Rule #1113, effective June 3, 2011.

Product Type:	Allowable VOC Content (g/L):
Bond Breaker	350
Clear wood finishes - Varnish	275
Clear wood finishes – Sanding Sealer	275
Clear wood finishes - Lacquer	275
Colorant – Architectural Coatings, excluding IM coatings	50
Colorant – Solvent Based IM	600
Colorant - Waterborne IM	50
Concrete – Curing compounds	100
Concrete – Curing compounds for roadways & bridges	350
Concrete surface retarder	50
Driveway Sealer	50
Dry-fog coatings	50
Faux finishing coatings - Clear topcoat	100
Faux finishing coatings – Decorative Coatings	350
Faux finishing coatings - Glazes	350
Faux finishing coatings - Japan	350
Faux finishing coatings – Trowel applied coatings	50
Fire-proof coatings	150
Flats	50
Floor coatings	50
Form release compounds	100
Graphic arts (sign) coatings	150
Industrial maintenance coatings	100
Industrial maintenance coatings – High temperature IM coatings	420
Industrial maintenance coatings – Non-sacrificial anti-graffiti coatings	100
Industrial maintenance coatings – Zinc rich IM primers	100
Magnesite cement coatings	450
Mastic coatings	100
Metallic pigmented coatings	150



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Multi-color coatings	250
Non-flat coatings	50
Pre-treatment wash primers	420
Primers, sealers and undercoaters	100
Reactive penetrating sealers	350
Recycled coatings	250
Roof coatings	50
Roof coatings, aluminum	100
Roof primers, bituminous	350
Rust preventative coatings	100
Stone consolidant	450
Sacrificial anti-graffiti coatings	50
Shellac- Clear	730
Shellac – Pigmented	550
Specialty primers	100
Stains	100
Stains, interior	250
Swimming pool coatings – repair	340
Swimming pool coatings – other	340
Traffic Coatings	100
Waterproofing sealers	100
Waterproofing concrete/masonry sealers	100
Wood preservatives	350
Low solids coatings	120

- 2) For field applications that are inside the weatherproofing system, 90 percent of paints and coatings must comply with the requirements of the CDPH's "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers."
- e. LOW-EMITTING MATERIALS, FLOORING: Flooring must comply with the requirements of the CDPH's "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers."
- f. LOW-EMITTING MATERIALS, COMPOSITE WOOD: Composite wood, agrifiber products, and adhesives must be made using ultra-low-emitting formaldehyde (ULEF) resins as defined in the CARB's "Airborne Toxic Control Measure to Reduce Formaldehyde Emissions from Composite Wood Products" or must be made with no added formaldehyde.
- g. LOW-EMITTING MATERIALS, CEILINGS, WALLS, THERMAL, AND ACOUSTIC INSULATION: Ceilings, walls, and thermal and acoustic insulation must comply with the requirements of the CDPH's "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers."
- h. LOW-EMITTING MATERIALS, FURNITURE: At least 90 percent of furniture, measured by cost, will be tested in accordance with ANSI/BIFMA Standard Method M7.1-2011; comply with ANSI/BIFMA e3-2011 Furniture Sustainability Standard, Sections 7.6.1 and 7.6.2, using either the concentration modeling approach or the emissions factor approach; and model the test results using the open plan, private office, or seating scenario in ANSI/BIFMA M7.1, as appropriate.
- i. LOW-EMITTING MATERIALS, EXTERIOR APPLIED MATERIALS (HEALTHCARE/ SCHOOLS ONLY): At least 90 percent of exterior applied materials, measured by volume, must comply with the requirements of the CDPH's "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers."



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- 1) The following materials are prohibited and do not count toward total percentage compliance:
 - a) Hot-mopped asphalt for roofing.
 - b) Coal tar sealants for parking lots and other paved surfaces.
 - j. **LOW-EMITTING MATERIALS, ADDITIONAL LOW-EMITTING REQUIREMENTS:** If the applicable regulation requires subtraction of exempt compounds, any content of intentionally added exempt compounds larger than 1% weight by mass (total exempt compounds) must be disclosed.
 - 1) If a product cannot reasonably be tested as specified above, testing of VOC content must comply with ASTM D2369-10; ISO 11890, part 1; ASTM D6886-03; or ISO 11890-2.
 - 2) Methylene chloride and perchloroethylene may not be intentionally added in adhesives, sealants, paints or coatings.
3. **BACK-UP DOCUMENTATION:** For each material listed in the Disclosure and Optimization Calculator or the EQ Calculator, provide and submit in accordance with Section 01 33 00 SUBMITTAL PROCEDURES, including but not limited to the documentation to certify the material's LEED Building attributes, as applicable:
 - a. **INSTALLATION ON LOCATION:** Submit indication of the installation location of products other than adhesives, sealants, paints and coatings. Installation locations should be categorized as one of the following:
 - 1) Ceiling
 - 2) Wall
 - 3) Floor
 - 4) Subfloor
 - 5) Built-In Cabinetry
 - 6) Free-Standing Cabinetry
 - 7) Vertical Structural Elements
 - 8) Overhead Structural Elements
 - b. **RECYCLED CONTENT:** Submit published product literature or letter of certification on the manufacturer's letterhead certifying the amounts of post-consumer and/or post-industrial content.
 - c. **REGIONAL SOURCING (WITHIN 100 MILES):** Submit published product literature or letter of certification on the manufacturer's letterhead indicating the city/state where the manufacturing plant is located, where each of the raw materials in the product were extracted, harvested or recovered, manufactured, distributed and the distance in miles from the Project site.
 - 1) If only some of the raw materials for a particular product or assembly originate within 100 miles of the Project site, provide the percentage (by weight) that these materials comprise in the complete product.
 - d. **BUILDING PRODUCT DISCLOSURE AND OPTIMIZATION:** Submit published third-party or manufacturer's product literature or letter of certification, on the third-party or manufacturer's letterhead, certifying the documented disclosure and optimization information.
 - e. **VOC EMISSIONS AND CONTENT:** Submit Material Safety Data Sheets (MSDS), for all applicable products. Applicable products include, but are not limited to adhesives, sealants, carpets, paints and coatings, flooring, composite wood, ceilings, walls, thermal and acoustic insulation, furniture, and for healthcare and schools, exterior applied products. MSDS must indicate the VOC emissions and content of products submitted. (If an MSDS does not include a product's VOC emissions and content, then product data sheets, manufacturer literature, or a letter of certification from the manufacturer must be submitted in addition to the MSDS to



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indicate the VOC emissions and content). Submit product third-party certificates and test reports, stating the testing methodology and the model, to include units that are consistent with those required. For wet-applied products, the manufacturer's documentation must state each product's classification and application according to the referenced standard's definition.

4. **PRODUCT CUT SHEETS:** Submit product cut sheets with the Contractor's or sub-contractor's stamp, confirming that the submitted products are the products installed in the Project.
5. **FSC-CERTIFIED WOOD:** If FSC-Certified Wood is used in the Project, submit:
 - a. Copies of vendor's invoices itemizing all new wood purchases, showing the cost for each line item.
 - b. For FSC-certified products, the vendor invoice must list product's FSC content percent and its Chain-of-Custody (CoC) certification number.
 - c. For FSC-certified products, submit the product and producer's CoC certificates.
 - d. For FSC-certified products modified on-site, submit on-site installer's CoC certification.
 - e. For assemblies, submit the percentage (by cost and by weight) of the assembly that is FSC-certified wood and published product literature or letter from the manufacturer (on the manufacturer's letterhead) verifying the percentage that is FSC-certified wood.
6. **HIGH ALBEDO PAVING AND WALKWAY MATERIALS:** For paving and walkway materials made from concrete or brick, submit published product literature or letter from the manufacturer (on the manufacturer's letterhead) verifying a minimum 3-year aged Solar Reflectance (SR) value of 0.28. If 3-year aged value information is not available, submit published product literature or letter verifying an initial SR value of at least 0.33 at installation.
7. **HIGH ALBEDO ROOFING MATERIALS:** For exposed roofing membranes, pavers, and ballast products, submit published product literature or letter from the manufacturer (on the manufacturer's letterhead) verifying the following minimum Solar Reflectance Index (SRI) values, calculated according to ASTM E 1980. Reflectance will be measured according to ASTM E 903, ASTM E 1918, or ASTM C 1549. Emittance will be measured according to ASTM E 408 or ASTM C 1371. Vegetated roof surfaces are exempt from the SRI criteria.
 - a. 82 for initial SRI, or 64 for 3-year aged SRI for low-sloped roofing applications (slope \leq 2:12)
 - b. 39 for initial SRI or 32 for 3-year aged SRI for steep-sloped roofing applications (slope $>$ 2:12)
8. **LOW MERCURY LAMPS:** For all fluorescent, compact fluorescent and HID lamps installed in the Project, submit the total number of each lamp type and submit published product literature or letter from the manufacturer (on the manufacturer's letterhead) verifying the following information. Preheat, T-9, T-10 and T-12 fluorescents or mercury vapor high-intensity discharge (HID) lamps must not be installed in the Project. For healthcare projects only, probe-start metal halide HID lamps must not be installed in any interior spaces.
 - a. The mercury content or content range per lamp in milligrams or picograms, meeting the following criteria;

Lamp	Maximum Mercury Content (milligram)
T-8 fluorescent, eight-foot	10 mg
T-8 fluorescent, four-foot	3.5 mg
T-8 fluorescent, U-bent	6 mg
T-5 fluorescent, linear	2.5 mg
T-5 fluorescent, circular	9 mg
Compact fluorescent, nonintegral ballast	3.5 mg
Compact fluorescent, integral ballast	3.5 mg, ENERGY STAR qualified
High-pressure sodium, up to 400 watts	10 mg
High-pressure sodium, above 400 watts	32 mg



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- b. The design light output per lamp (light at 40% of a lamp's useful life) in lumens; and
 - c. The rated average life of the lamp in hours.
- 9. EXIT SIGNS: Illuminated exit signs must not contain mercury, and must use less than 5 watts of electricity.
- 10. CONCRETE: Submit concrete mix design for each mix, designated by a distinct identifying code or number and signed by a Professional Engineer licensed in the state of New York.
- 11. INTERIOR LIGHTING FIXTURES: For each lighting fixture type installed within the building's weather barrier, submit manufacturer's cut sheets indicating the following:
 - a. Fixture power in watts.
 - b. Initial lamp lumens.
 - c. Photometric distribution data.
 - d. Dimming capability, in range of percentages.
- 12. EXTERIOR LIGHTING FIXTURES: For each lighting fixture type installed on site, submit manufacturer's cut sheets indicating the following:
 - a. Fixture power in watts.
 - b. Initial lamp lumens.
 - c. Photometric distribution data.
 - d. Range of field adjustability, if any.
 - e. Warranty of suitability for exterior use.
- 13. ALTERNATIVE TRANSPORTATION: Submit manufacturer's cut sheets and/or shop drawings for the following items installed on site:
 - a. Bike racks, including total number of bicycle slots provided.
 - b. Signage indicating parking spaces reserved for electric or low-emitting vehicles and for carpools/vanpools, including total number of signs.
- 14. WATER CONSERVING FIXTURES: For all water consuming plumbing fixtures and fittings, submit manufacturer's cut sheets showing maximum flow rates and/or flush rates.
- 15. ENERGY SAVING APPLIANCES: Submit manufacturer's cut sheets and published product literature or letter from the manufacturer (on the manufacturer's letterhead) verifying the product's rating under the U.S. EPA/DOE Energy Star program, for all of the following:
 - a. Appliances (i.e., refrigerators, dishwashers, microwave ovens, televisions, clothes washers, clothes dryers, chilled water dispensers).
 - b. Office equipment (i.e., copy machines, fax machines, plotters/printers, scanners, binding and publishing equipment).
 - c. Electronics (i.e., servers, desktop computers, computer monitor displays, laptop computers, network equipment).
 - d. Commercial food service equipment.
- 16. GLAZING: For glazing in any windows, doors, storefront and window wall systems, curtainwall systems, skylights, and partitions, submit manufacturer's cut sheets indicating the following:
 - a. Glazed area.
 - b. Visible light transmittance.
 - c. Solar heat gain coefficient.
 - d. Fenestration assembly u-factor.
- 17. VENTILATION: Submit manufacturer's cut sheets for the following:
 - a. Carbon dioxide monitoring systems, if any, installed to measure outside air delivery.



- b. Air filters: for detailed requirements refer to Section 01 81 19 INDOOR AIR QUALITY REQUIREMENTS FOR LEED BUILDINGS.
- 18. REFRIGERATION: For all refrigeration equipment, submit manufacturer's cut sheets indicating the following:
 - a. Equipment type.
 - b. Equipment life. Default values specified by the 2007 ASHRAE Applications Handbook will be used unless otherwise demonstrated by the manufacturer's guarantee and an equivalent long-term service contract.
 - c. Refrigerant type.
 - d. Refrigerant charge in pounds of refrigerant per ton of gross cooling capacity.
 - e. Tested refrigerant leakage rate, in percent per year. A default rate of 2% will be used unless otherwise demonstrated by test data.
 - f. Tested end-of-life refrigerant loss, in percent. A default rate of 10% will be used unless otherwise demonstrated by test data.

1.7 LEED BUILDING SUBMITTAL REQUIREMENTS:

- A. The LEED Building Submittal information must be assembled into one package per contract specification section(s) (or per subcontractor), and submitted in accordance with Section 01 33 00 SUBMITTAL PROCEDURES. Incomplete or inaccurate LEED Building Submittals may be used as the basis for the rejection of products or assemblies.
- B. All final LEED Building Submittal information with back-up documentation must be submitted within two (2) months of the Project's substantial completion. If in the Project's LEED review, the USGBC or their third party reviewer requires additional documentation as it relates to the LEED Building Submittals, the Contractor must provide the requested documentation within two (2) weeks.

1.8 LEED ACTION PLANS:

- A. Construction Waste Management Plan- Refer to Section 01 74 19 CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL for detailed requirements.
- B. Construction IAQ Management Plan- Refer to Section 01 81 19 INDOOR AIR QUALITY REQUIREMENTS FOR LEED BUILDINGS for detailed requirements.
- C. Erosion and Sedimentation Control (ESC) Plan:
 - 1. The Plan must be in accordance with the New York State Department of Environmental Conservation (NYSDEC)'s New York State Standards and Specifications for Erosion and Sediment Control (Blue Book) or the 2012 EPA Construction General Permit, whichever is more stringent.
 - 2. The Plan must be submitted in accordance with Section 01 33 00 SUBMITTAL PROCEDURES.
 - 3. Detailed requirements: ESC Plan
 - a. Include the Stormwater Pollution Prevention Plan, if required.
 - b. Identify the party responsible for Plan monitoring and documentation. The party must be regularly on site.
 - c. Describe all site work that will be implemented on the Project and include timing of implementation.
 - d. Submit site plan with location of ESC measures, including, but not limited to, stormwater quantity controls, stormwater quality controls, stabilized construction entrances, washdown areas, inlet/catch basin protection and perimeter controls.



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- e. Establish and clearly delineate construction buffer zones to avoid soil compaction and other construction damage to greenfields.
 - f. Describe the inspection and maintenance protocols of the ESC measures. Submit a construction schedule indicating weekly site review.
 - g. Describe reporting and documentation measures.
- 4. Detailed requirements: ESC Tracking Log
 - a. Note date of major rain events, describe damage, describe any repairs or maintenance of specific control measures performed, and note responsible party.
 - b. Note date and findings of weekly site review, describe any repairs or maintenance performed, and note responsible party. Submit date-stamped photographs, inspection reports or other recording processes.
 - c. Submit monthly.
- 5. Implementation
 - a. Before Demolition and/or Construction begins, the Contractor will implement the ESC Plan, coordinate the Plan with all affected trades, and designate one individual as the Erosion and Sedimentation Control Representative, who will be responsible for communicating the progress of the Plan with the Commissioner monthly, and for assembling the required LEED documentation.
 - b. The Contractor is responsible for the provision, maintenance, and repair of all ESC measures. Any problems identified in site inspections must be resolved in a timely manner.
 - c. Demonstration. The Contractor must provide on-site instruction of proper construction practices required to prevent erosion and sedimentation.
 - d. All subcontractors must promptly notify the ESC Representative if damage to an ESC measure is observed.
 - e. Meetings. Urgent or ongoing ESC issues must be discussed at weekly on-site job meetings.
- 6. All projects, including zero lot line buildings and projects that cause minimal or even no exterior site disturbance, must have ESC Plan that meets requirements.
- 7. Contractor must save such original documents for the life of the Project plus seven (7) years.

1.9 QUALITY ASSURANCE:

- A. The Contractor must implement all LEED Action Plans, coordinate the Plans and LEED Building Submittals with all affected trades, and designate one individual as the Sustainable Construction Representative at no additional cost to the City of New York, who will be responsible for communicating the progress of LEED activities with the Commissioner monthly, and for assembling the required LEED documentation. The Contractor must facilitate measurements taken by authorized parties on site for LEED compliance verification purposes.
- B. Responsibilities of Contractor's Subcontractors: The Contractor is responsible for his/her subcontractors complying with the LEED Action Plans and for providing required LEED documentation as required for the Project.
- C. Distribution and Compilation: The Contractor is responsible for distributing the LEED v4 MR Credits Calculator for Building Product Disclosure and Optimization, the LEED v4 EQ Credit Low-Emitting Materials Calculator, and any other forms or templates required for the subcontractors to record LEED documentation. The Contractor is also responsible for collecting and compiling Building Product Disclosure and Optimization and Low-Emitting Materials information into packages as described in Section 01 33 00 SUBMITTAL PROCEDURES.
- D. Meetings: Sustainable design and construction issues must be discussed at the following meetings in accordance with Section 01 31 00 PROJECT MANAGEMENT AND COORDINATION:
 - 1. Demolition kick-off meeting
 - 2. Construction kick-off meeting
 - 3. Construction kick-off meeting for LEED (independent meeting)
 - 4. Weekly job-site progress and coordination meetings



5. Closeout meeting

1.10 REFERENCES:

- A. New York State Standards and Specifications for Erosion and Sediment Control, amended November 2016: http://www.dec.ny.gov/docs/water_pdf/2016nysstanec.pdf
- B. 2012 EPA Construction General Permit: <https://www.epa.gov/npdes/epas-2012-construction-general-permit-cgp-and-related-documents>
- C. South Coast Air Quality Management District (SCAQMD), Rule 1168: www.aqmd.gov
- D. South Coast Air Quality Management District (SCAQMD), Rule 1113: www.aqmd.gov
- E. CDPH Standard Method v1.1-2010: www.cal-iaq.org
- F. ISO 17025: www.iso.org
- G. ISO Guide 65: www.iso.org
- H. CARB 93120 ATCM: arb.ca.gov/toxics/compwood/compwood.htm
- I. ANSI/BIFMA M7.1 Standard Test Method for Determining VOC Emissions from Office Furniture Systems, Components and Seating: bifma.org
- J. ANSI/BIFMA e3-2011 Furniture Sustainability Standard: bifma.org
- K. ISO 14021–1999, Environmental labels and declarations—Self Declared Claims (Type II Environmental Labeling): www.iso.org
- L. ISO 14025–2006, Environmental labels and declarations (Type III Environmental Labeling): www.iso.org
- M. Declarations—Principles and Procedures): www.iso.org
- N. ISO 14040–2006, Environmental management, Life cycle assessment principles, and frameworks: www.iso.org
- O. ISO 14044–2006, Environmental management, Life cycle assessment requirements, and guidelines: www.iso.org
- P. International Standard ISO 21930–2007 Sustainability in building construction—Environmental declaration of building products: www.iso.org
- Q. Federal Trade Commission, Guides for the Use of Environmental Marketing Claims, 16 CFR 260.7 (e): www.ftc.gov/bcp/gmrule/guides980427.htm
- R. Global Reporting Initiative (GRI) Sustainability Report: www.globalreporting.org/
- S. Organisation for Economic Co-operation and Development (OECD) Guidelines for Multinational Enterprises: www.oecd.org/daf/internationalinvestment/guidelinesformultinationalenterprises/
- T. U.N. Global Compact, Communication on Progress: www.unglobalcompact.org/participation/report/cop
- V. ISO 26000—2010 Guidance on Social Responsibility: www.iso.org/iso/home/standards/iso26000.htm
- W. Forest Stewardship Council: www.ic.fsc.org
- X. Sustainable Agriculture Network: www.sanstandards.org
- Y. The Rainforest Alliance: www.rainforest-alliance.org/
- Z. ASTM Test Method D6866: www.astm.org/Standards/D6866.htm
- AA. Chemical Abstracts Service: www.cas.org/



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- BB. Health Product Declaration: www.hpd-collaborative.org/
- CC. Cradle-to-Cradle CertifiedCM Product Standard: www.c2ccertified.org/product_certification
- DD. Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH):
www.echa.europa.eu/support/guidance-on-reach-and-clp-implementation
- EE. GreenScreen: www.greenscreenchemicals.org/method/greenscreen-list-translator

PART II – PRODUCTS (Not Used)

PART III – EXECUTION (Not Used)

END OF SECTION 01 81 13.04



**SECTION 018113.10
ENVIRONMENTALLY PREFERABLE PURCHASING (EPP) COMPLIANCE**

REFER TO THE ADDENDUM FOR APPLICABILITY OF THIS SECTION 01 81 13.10

PART I – GENERAL

1.1 RELATED DOCUMENTS:

- A. The following documents apply to all required work for the Project: (1) the Contract Drawings, (2) the Specifications, (3) the General Conditions, (4) the Addendum, and (5) the Contract [City of New York Standard Construction Contract].

1.2 SUMMARY:

- A. This Section includes administrative and procedural requirements for all equipment, material and product purchasing to comply with the requirements of New York City Environmentally Preferable Purchasing (EPP) "Minimum Standards for Construction Products", as established by the Mayor's Office of Contract Services (MOCS). Refer to their website for further guidance.
- B. All sections in the Project Specifications with applicable equipment, materials and products will follow all requirements of this section. In the event of any conflict or inconsistency between this section and the Specifications, the more stringent requirements will prevail.
- C. This Section includes:
1. Definitions
 2. Administrative Requirements
 3. Action Submittals
 4. Informational Submittals
 5. Products, Materials

1.3 RELATED SECTIONS: Include without limitation the following:

- A. Section 01 10 00 SUMMARY
B. Section 01 33 00 SUBMITTAL PROCEDURES
C. Section 01 78 39 CONTRACT RECORD DOCUMENTS

1.4 DEFINITIONS:

- A. Refer to Article 2 of the Contract for definition of terms, words and expressions used in the General Conditions not otherwise defined herein.

<u>Term</u>	<u>Definition</u>
Environmentally Preferable Purchasing (EPP) Minimum Standards for Construction Products	The standard that refers to a list of equipment, materials and products that may be specified in construction contracts covered by the EPP laws and provides the applicable minimum standards referenced in the laws. See EPP Minimum Standards for Constructions Products available on MOCS' website for a comprehensive list of all applicable definitions.



1.5 ADMINISTRATIVE REQUIREMENTS:

- A. At no additional cost to the City of New York, designate an individual who will be responsible for the communication of progress of EPP activities with the Commissioner on a regular basis and for the quality of all EPP-related materials and preparation, coordination and assembly of the supporting documentation.
- B. Scope and Applicability: Action submittals and informational submittals are required for all installed equipment, materials and products that require EPP compliance. Provide all required submittals in accordance with Section 01 33 00 SUBMITTAL PROCEDURES.
- C. Distribution and Compilation: The Contractor must coordinate with all affected trades and is responsible for his/her subcontractors complying with the EPP requirements and for providing required EPP documentation as required for the project. The Contractor is responsible for distributing the forms or templates required for the subcontractors to record EPP documentation. The Contractor is also responsible for collecting and compiling information into packages as described in Section 01 33 00 SUBMITTAL PROCEDURES.
- D. The Contractor must respond in a timely manner to questions and requests from the Commissioner, Design Consultant and MOCS regarding EPP requirements that are the responsibility of the Contractor. Document responses as informational submittals.

1.6 ACTION SUBMITTALS:

- A. General Requirements:
 - 1. EPP Documentation Submittals for applicable and compliant product data, as stated in the EPP Minimum Standards for Construction Products, is to be documented in the form of a Vendor Survey and supporting manufacturer's data sheets highlighting EPP compliance-related data. Include in the Vendor Survey the anticipated quantity of product purchased and cost per unit data. See attached sample Vendor Survey form.
 - 2. Compliance with EPP requirements will be used as one criterion to evaluate product selection. Assemble EPP Documentation Submittal information into one package per contract specification section(s) (or per subcontractor). Incomplete or inaccurate EPP Documentation submittals may be used as the basis for the rejection of products or assemblies.
 - 3. Update the quantities and costs in the Vendor Survey once products are approved and purchased and document as information submittal.

1.7 INFORMATIONAL SUBMITTALS

- A. For each registered contract, the Contractor must maintain a Master Vendor Survey, an updated tracking log of all equipment, materials and products purchased on a contract that are required to comply with EPP. Submit the Master Vendor Survey on a monthly basis and update the costs once products are purchased.
 - 1. Upon request by MOCS, submit the Master Vendor Survey and supporting documents.
- B. EPP Progress Reports: Concurrent with each Application for Payment, submit reports of purchasing activities for each of the EPP-applicable equipment, materials and products listed in Sub-section C below.
- C. Project Materials Cost Data: For Vendor Survey and EPP Progress Reports, include breakout of costs for the following categories of items:
 - 1. Appliances.
 - 2. Architectural Coatings.
 - 3. HVAC Equipment.



4. Lighting Products.
5. Miscellaneous Products – Construction.
6. Plumbing Fixtures.

PART II – PRODUCTS

2.1 MATERIALS:

- A. Detailed Requirements. This sub-section defines the information and documents to be provided for each EPP-applicable equipment, material and product type, as identified in each specification section:

1. Appliances – Residential:

All energy-using products for which the United States Environmental Protection Agency and the United States Department of Energy have developed energy efficiency standards for compliance with the Energy Star program shall be ENERGY STAR labeled. The following residential appliances shall comply with this requirement:

- a. Clothes Washers
- b. Dehumidifiers
- c. Dishwashers, Standard-Sized
- d. Freezers, Upright, Chest and Compact
- e. Refrigerators and Refrigerator-Freezers, Standard-Sized and Compact

Microwave Ovens shall comply with the following requirements:

- a. Recommended Standby Levels: 2 watts or less
- b. Best Available Standby Level: 2 watts or less

2. Architectural Coatings:

- a. For the products listed below, the maximum content of Volatile Organic Compounds (VOCs) shall be determined according to the American Society for Testing and Materials test method D 5116 (Guide for Small-Scale Environmental Chamber Determinations of Organic Emissions from Indoor Materials/Products).

Architectural Coating	Maximum Concentration of VOC in Grams per Liter
Clear Wood Coating – Clear-Brushing lacquers	275
Clear Wood Coating – Sanding Sealers (Other than Lacquers)	275
Clear Wood Coating –Varnishes	275
Floor Coatings	100
Lacquers - Pigmented	275
Primers for Flat Paint	100
Primers for Non-Flat Paint	150
Rust Preventative/Anti-Corrosive Paint	250

- b. Any product listed below that is compliant with Part 205 of Title Six of the New York Codes, Rules and Regulations meets the standard required under EPP Minimum Standards for Construction Products. The maximum content of VOCs for these products shall be determined according to the test method required under part 205.6 of such part.



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Architectural Coating	Maximum Concentration of VOC in Grams per Liter
Clear Wood Coating – Conversion Varnishes	725
Clear Wood Coating – Lacquers (Including Lacquer Sanding Sealers)	550
Concrete Bond Breakers	350
Concrete Curing Compounds	350
Concrete Surface Retarders	780
Dry Fog Coatings	400
Faux Finishing Coatings	350
Fire-Resistive Coatings	350
Fire-Retardant Coatings	650
Fire-Retardant Coatings - Opaque	350
Flat Paint	100
Form Release Compounds	250
Graphic Arts Coatings (Sign Paints)	500
High Temperature Coatings	420
Industrial Maintenance (IM) Coatings	340
Low Solids Coatings	120
Magnesite Cement Coatings	450
Mastic Texture Coatings	300
Metallic Pigmented Coatings	500
Multi-Color Coatings	500
Nonflat High-Gloss Coatings	250
Nonflat Paint	150
Pre-Treatment Wash Primers	420
Primers, Sealers, and Undercoaters	200
Quick-Dry Enamels	250
Quick-Dry Primers, Sealers, and Undercoaters	200
Recycled Coatings	250
Roof Coatings	250
Roof Coatings (Bituminous)	300
Roof Primers (Bituminous)	350
Shellacs – Clear	730
Shellacs – Opaque	550
Specialty Primers, Sealers and Undercoaters	350
Stains	250
Swimming Pool Coatings and Swimming Pool Repair and Maintenance Coatings	340
Thermoplastic Rubber Coatings and Mastics	550
Waterproofing Concrete / Masonry Sealers	400
Waterproofing Sealers	250
Wood Preservatives	350



- c. The products listed below shall be recovered material and comply with the Post-consumer Content and Total Recovered Materials Content requirements.

Architectural Coating	Post-consumer Content (%)	Total Recovered Materials Content (%)
Latex Paint – Consolidated	100	100
Latex Paint – Reprocessed White, Off-White and Pastel Colors	20	20
Latex Paint – Reprocessed Grey, Brown, Earthtones and Other Dark Colors	50-99	50-99

3. HVAC Equipment: Commercial and Residential

a. Commercial

All energy-using products for which the United States Environmental Protection Agency and the United States Department of Energy have developed energy efficiency standards for compliance with the Energy Star program shall be ENERGY STAR labeled. The following Commercial HVAC Equipment shall comply with this requirement:

1. Air Conditioners, Air-Cooled
2. Air Conditioners, Gas/Electric Package Units
3. Heat Pumps, Air Source

Chillers shall comply with the following Part Load Optimized Chillers IPLV and Full Load Optimized Chillers IPLV requirements:

Type	Compressor Type and Capacity	Part Load Optimized Chillers IPLV (kW/ton) Required	Full Load Optimized Chillers IPLV (kW/ton) Required
Air-Cooled	Scroll (30 – 60 tons)	0.86 or less	1.23 or less 1.1
Air-Cooled	Reciprocating (30 – 150 tons)	0.90 or less	1.23 or less 1
Air-Cooled	Screw (70 – 200 tons)	0.98 or less	1.23 or less 0.94
Water-Cooled	Centrifugal (150 – 299 tons)	0.52 or less	0.59 or less
Water-Cooled	Centrifugal (300 – 2,000 tons)	0.45 or less	0.56 or less
Water-Cooled	Rotary Screw (>150 tons)	0.49 or less	0.64 or less

b. Residential

All energy-using products for which the United States Environmental Protection Agency and the United States Department of Energy have developed energy efficiency standards for compliance with the Energy Star program shall be ENERGY STAR labeled. The following Residential HVAC Equipment shall comply with this requirement:

1. Air Conditioners, Central (<65,000 Btu/h)
2. Air Conditioners, Central, Gas/Electric Package Units (<65,000 Btu/h)
3. Air Source Heat Pumps (<65,000 Btu/h)



4. Boilers and Boiler/Hot Water Heaters (<300,000 Btu/h)
5. Ceiling Fans
6. Furnaces and Furnace/Hot Water Heaters (<340,000 Btu/h)
7. Ground Source Heat Pumps (Geothermal)
8. In-Line Ventilating Fan
9. Programmable Thermostats
10. Range Hood and Bathroom /Utility Room Ventilating Fans
11. Room Air Cleaners
12. Room Air Conditioners

4. Lighting Products

a. The following lighting products shall comply with the corresponding BEF requirement:

Product Type	Number of Lamps	Required BEF
Ballast, Fluorescent, Four-Foot, Linear T12, 34-Watts	1	2.64 or higher
Ballast, Fluorescent, Four-Foot, Linear T12, 34-Watts	2	1.41 or higher
Ballast, Fluorescent, Four-Foot, Linear T12, 34-Watts	3	0.93 or higher
Ballast, Fluorescent, Eight-Foot, Linear T12, 60-Watts	2	0.80 or higher
Ballast, Fluorescent, Four-Foot, Linear T8, 32-Watts	1	2.54 or higher
Ballast, Fluorescent, Four-Foot, Linear T8, 32-Watts	2	1.44 or higher
Ballast, Fluorescent, Four-Foot, Linear T8, 32-Watts	3	1.44 or higher
Ballast, Fluorescent, Four-Foot, Linear T8, 32-Watts	4	0.73 or higher
Ballast, Fluorescent, Eight-Foot, Linear T8, 59-Watts	2	0.80 or higher
Ballast, Fluorescent, Four-Foot, U-Bent T12, 34-Watts	1	2.64 or higher
Ballast, Fluorescent, Four-Foot, U-Bent T12, 34-Watts	2	1.41 or higher
Ballast, Fluorescent, Four-Foot, U-Bent T12, 34-Watts	3	0.93 or higher
Ballast, Fluorescent, U-Tube, U-Bent T8, 32-Watts	1	2.54 or higher
Ballast, Fluorescent, U-Tube, U-Bent T8, 32-Watts	2	1.44 or higher
Ballast, Fluorescent, U-Tube, U-Bent T8, 32-Watts	3	0.93 or higher
Ballast, Fluorescent, U-Tube, U-Bent T8, 32-Watts	4	0.73 or higher

b. All energy-using products for which the United States Environmental Protection Agency and the United States Department of Energy have developed energy efficiency standards for compliance with the Energy Star program shall be ENERGY STAR labeled. The following Lighting Products shall comply with this requirement:

1. Exit Signs
2. Luminaires, Residential



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c. Luminaires, Downlight, With Compact Fluorescent Lamps (13-32 Lamp Wattage) shall comply with the following LER requirements:

Luminaire Type (NEMA Designation)	Required LER
Open Optics	29 or higher
Baffled Optics	21 or higher
Lensed Optics	24 or higher

d. Luminaires, Downlight, With Metal Halide Lamps (<150 Watts) shall comply with the following LER requirements:

Luminaire Type (NEMA Designation)	Required LER
Open Optics	35 or higher
Lensed Optics	30 or higher

e. Luminaires, Fluorescent shall comply with the following LER requirements:

Luminaire Type (NEMA Designation)	Number of Lamps	Required LER
Lensed (FL)	2	62 or higher
Lensed (FL)	3	61 or higher
Lensed (FL)	4	61 or higher
VDT-Preferred Louvered (FP)	2	50 or higher
VDT-Preferred Louvered (FP)	3	51 or higher
VDT-Preferred Louvered (FP)	4	54 or higher
Four-Foot (FW)	2	63 or higher
Four-Foot (FW)	4	62 or higher
Four-Foot (FS)	1	70 or higher
Four-Foot (FS)	2	70 or higher
Four-Foot (FI)	1	67 or higher
Eight-Foot (FI)	2	68 or higher

f. Luminaires, Industrial HID, With High Pressure Sodium Lamps (<150 Lamp Wattage) shall comply with the following LER requirements:

Upward Efficiency	Lamp Wattage	Closed Fixture (HR) LER Required	Open Fixture (HR) LER Required
0%	150-399	58 or higher	68 or higher
0%	400-999	63 or higher	84 or higher
0%	>1000	N/A	N/A
1%-10%	150-399	64 or higher	63 or higher
1%-10%	400-999	82 or higher	89 or higher
1%-10%	>1000	N/A	109 or higher
11%-20%	150-399	N/A	78 or higher
11%-20%	400-999	N/A	94 or higher
11%-20%	>1000	N/A	N/A
>20%	150-399	75 or higher	77 or higher
>20%	400-999	N/A	N/A



>20%	>1000	N/A	N/A
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5. Miscellaneous Products – Construction

- a. For the products listed below, the maximum content of Volatile Organic Compounds (VOCs) shall be determined according to the American Society for Testing and Materials test method D 5116 (Guide for Small-Scale Environmental Chamber Determinations of Organic Emissions from Indoor Materials/Products). The products may not contain any volatile organic compound in any concentration exceeding that specified below. Products that are compliant with the Green Label Plus program of the Carpet and Rug Institute are also compliant with this standard.

Carpet Adhesives		
Volatile Organic Compound	24-Hour Testing Maximum Emission Factor (µg/m²•hr)	14-Day Testing Maximum Emission Factor (µg/m²•hr)
Formaldehyde	50	31
2-ethyl-1-hexanol	300	300
Total Volatile Organic Compounds	800	N/A
Carpet Cushions		
Volatile Organic Compound	24-Hour Testing Maximum Emission Factor (µg/m²•hr)	14-Day Testing Maximum Emission Factor (µg/m²•hr)
Butylated Hydroxytoluene	300	N/A
Formaldehyde	50	N/A
4-Phenylcyclohexene (4PCH)	50	N/A
Total Volatile Organic Compounds	1000	N/A
Carpets		
Volatile Organic Compound	24-Hour Testing Maximum Emission Factor (µg/m²•hr)	14-Day Testing Maximum Emission Factor (µg/m²•hr)
Formaldehyde	50	30
4-Phenylcyclohexene	50	17
Styrene	410	410
Total Volatile Organic Compounds	500	N/A

- b. The products listed below shall comply with the Recycled Post-consumer Content and Total Recovered Materials Content requirements.

Carpet Cushion – Bonded Polyurethane		
Material	Recovered Post-consumer Content (%)	Total Recovered Materials Content (%)
Old Carpet Cushion	15-50	15-50
Carpet Cushion – Jute		
Material	Recovered Post-consumer Content (%)	Total Recovered Materials Content (%)
Burlap	40	40
Carpet Cushion – Rubber		
Material	Recovered Post-consumer Content (%)	Total Recovered Materials Content (%)
Tire Rubber	60-90	60-90



Carpet Cushion – Synthetic Fibers		
Material	Recovered Post-consumer Content (%)	Total Recovered Materials Content (%)
Carpet Fabrication Scrape	No Range Recommended	100
Cement and Concrete		
Material	Recovered Post-consumer Content (%)	Total Recovered Materials Content (%)
Cenospheres	No Range Recommended	Minimum 10% (by volume)
Coal fly Ash	No Range Recommended	No Range Recommended
GGBF Slag	No Range Recommended	No Range Recommended
Silica Fume	No Range Recommended	5-10% of cementitious material (dry weight basis)
Channelizers		
Material	Recovered Post-consumer Content (%)	Total Recovered Materials Content (%)
Plastic	25-90	No Range Recommended
Rubber (base only)	100	No Range Recommended
Delineators – Fixed		
Material	Recovered Post-consumer Content (%)	Total Recovered Materials Content (%)
Plastic	25-90	No Range Recommended
Rubber (base only)	100	No Range Recommended
Steel (BOF, base only)	16	25-30
Steel (BOF, base only)	67	100
Delineators – Flexible		
Material	Recovered Post-consumer Content (%)	Total Recovered Materials Content (%)
Plastic PET	25-85	No Range Recommended
Floor Tiles		
Material	Recovered Post-consumer Content (%)	Total Recovered Materials Content (%)
Rubber	90-100	No Range Recommended
Plastic	No Range Recommended	90-100
Insulation - Cellulose		
Material	Recovered Post-consumer Content (%)	Total Recovered Materials Content (%)
Post-consumer Paper	75	75
Insulation - Foam-In-Place		
Material	Recovered Post-consumer Content (%)	Total Recovered Materials Content (%)
Recovered Material	No Range Recommended	5
Insulation - Glass Fiber Reinforced		
Material	Recovered Post-consumer Content (%)	Total Recovered Materials Content (%)
Recovered Material	No Range Recommended	6
Insulation - Laminated Paperboard		
Material	Recovered Post-consumer Content (%)	Total Recovered Materials Content (%)
Post-consumer Paper	100	100
Insulation - Perlite Composition Board		
Material	Recovered Post-consumer Content (%)	Total Recovered Materials Content (%)
Post-consumer Paper	23	23



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Insulation - Phenolic Rigid Foam		
Material	Recovered Post-consumer Content (%)	Total Recovered Materials Content (%)
Recovered Material	No Range Recommended	5
Insulation - Plastic, Non-woven Batt		
Material	Recovered Post-consumer Content (%)	Total Recovered Materials Content (%)
Recovered and/or Post-consumer Plastic	No Range Recommended	100
Insulation - Plastic Rigid Foam, Polyisocyanurate/Polyurethane: Rigid Foam		
Material	Recovered Post-consumer Content (%)	Total Recovered Materials Content (%)
Recovered Material	No Range Recommended	9
Insulation - Structural Fiberboard		
Material	Recovered Post-consumer Content (%)	Total Recovered Materials Content (%)
Recovered Material	No Range Recommended	80-100
Modular Threshold Ramps		
Material	Recovered Post-consumer Content (%)	Total Recovered Materials Content (%)
Steel (BOF)	16	25-30
Steel (EAF)	67	100
Aluminum	No Range Recommended	10
Rubber	100	100
Nonpressure Pipe		
Material	Recovered Post-consumer Content (%)	Total Recovered Materials Content (%)
Steel (BOF)	16	25-30
Steel (EAF)	67	100
Plastic (HDPE)	100	100
Plastic (PVC)	5-15	25-100
Cement	No Range Recommended	No Range Recommended
Playground Equipment		
Material	Recovered Post-consumer Content (%)	Total Recovered Materials Content (%)
Plastic	90-100	100
Plastic Composite	50-75	95-100
Steel (BOF)	16	95
Steel (EAF)	50-100	95-100
Restroom Dividers/Partitions, Steel		
Material	Recovered Post-consumer Content (%)	Total Recovered Materials Content (%)
Steel (from BOF)	16	25-30
Steel (from EAF)	67	100
Roofing Materials		
Material	Recovered Post-consumer Content (%)	Total Recovered Materials Content (%)
Steel (BOF)	16	25-30
Steel (EAF)	67	100
Aluminum	20-95	20-95
Fiber (felt) or Fiber Composite	50-100	50-100
Rubber	12-100	100
Plastic or Plastic/Rubber Composite	100	100



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Wood/Plastic Composite	No Range Recommended	100
Cement	No Range Recommended	No Range Recommended
Shower Dividers/Partitions, Steel		
Material	Recovered Post-consumer Content (%)	Total Recovered Materials Content (%)
Steel (from BOF)	16	25-30
Steel (from EAF)	67	100
Traffic Barricades		
Material	Recovered Post-consumer Content (%)	Total Recovered Materials Content (%)
Plastic (High Density Polyethylene [HDPE], Low-Density Polyethylene [LDPE], Polyethylene terephthalate [PET])	80-100	100
Steel (BOF)	16	25-30
Steel (EAF)	67	100
Fiberglass	No Range Recommended	No Range Recommended

c. All energy-using products for which the United States Environmental Protection Agency and the United States Department of Energy have developed energy efficiency standards for compliance with the Energy Star program shall be ENERGY STAR labeled. The following Construction Products shall comply with this requirement:

1. Entry or Patio Doors, Residential
2. Residential Skylights
3. Residential Windows & Tubular Daylighting Devices
4. Roof Products

d. Electric Motors shall comply with the following Nominal Efficiencies requirements:

Nominal Efficiencies for Induction Motors Rated 600 Volts or Less (Random Wound)						
Motor Size (HP)		Open Drip-Proof (ODP)		Totally Enclosed Fan-Cooled (TEFC)		
6-pole (1200 rpm)	4-pole (1200 rpm)	2-pole (1200 rpm)	6-pole (1200 rpm)	4-pole (1200 rpm)	2-pole (1200 rpm)	
1	82.5	85.5	77.0	82.5	85.5	77.0
1.5	86.5	86.5	84.0	87.5	86.5	84.0
2	87.5	86.5	85.5	88.5	86.5	85.5
3	88.5	89.5	85.5	89.5	89.5	86.5
5	89.5	89.5	86.5	89.5	89.5	88.5
7.5	90.2	91.0	88.5	91.0	91.7	89.5
10	91.7	91.7	89.5	91.0	91.7	90.2
15	91.7	93.0	90.2	91.7	92.4	91.0
20	92.4	93.0	91.0	91.7	93.0	91.0
25	93.0	93.6	91.7	93.0	93.6	91.7
30	93.6	94.1	91.7	93.0	93.6	91.7
40	94.1	94.1	92.4	94.1	94.1	92.4
50	94.1	94.5	93.0	94.1	94.5	93.0
60	94.5	95.0	93.6	94.5	95.0	93.6
75	94.5	95.0	93.6	94.5	95.4	93.6
100	95.0	95.4	93.6	95.0	95.4	94.1



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125	95.0	95.4	94.1	95.0	95.4	95.0
150	95.4	95.8	94.1	95.8	95.8	95.0
200	95.4	95.8	95.0	95.8	96.2	95.4
250	95.4	95.8	95.0	95.8	96.2	95.8
300	95.4	95.8	95.4	95.8	96.2	95.8
350	95.4	95.8	95.4	95.8	96.2	95.8
400	95.8	95.8	95.8	95.8	96.2	95.8
450	96.2	96.2	95.8	95.8	96.2	95.8
500	96.2	96.2	95.8	95.8	96.2	95.8

Nominal Efficiencies for Induction Motors Rated Medium Voltage or Less (Form Wound)						
Motor Size (HP)		Open Drip-Proof (ODP)		Totally Enclosed Fan-Cooled (TEFC)		
6-pole (1200 rpm)	4-pole (1200 rpm)	2-pole (1200 rpm)	6-pole (1200 rpm)	4-pole (1200 rpm)	2-pole (1200 rpm)	
250-500	95.0	95.0	94.5	95.0	95.0	95.0

6. Plumbing Fixtures.

The plumbing fixtures shall comply with the following Water Efficiency requirements:

Plumbing Fixture	Water Efficiency Requirement
Lavatory Faucets	< 2.0 gallons per minute
Showerheads, Residential and Commercial	< 2.2 gallons per minute
Toilets, Residential and Commercial	< 1.6 gallons per flush
Urinals, Residential and Commercial	< 1.0 gallons per flush

PART III – EXECUTION (Not Used)

END OF SECTION 018113.10



EPP VENDOR SURVEY FORM

Instructions: In the space provided, indicate the following: (1.) Choose Construction for the EPP Book Used (2.) Choose the product type from the drop-down menu; (3.) Choose the product detail from the drop-down menu; (4.) Identify the specific item under Product Description; (5.) Enter the number of products per unit; (6.) Enter the cost per unit; (7.) Enter the units purchased; (8.) Enter the total cost.

Return completed spreadsheet to the contracting agency in the accompanying letter. Thank you.

Agency Acronym	Environmental Preferable Purchasing Information				Quantity and Cost Information				Comments
	EPP Book Used	Product Type	Product Details	Product Description	Products Per Unit	Cost Per Unit	Units Purchased	Total Cost	
DDC								\$0.00	
DDC								\$0.00	
DDC								\$0.00	
DDC								\$0.00	
DDC								\$0.00	
DDC								\$0.00	
DDC								\$0.00	
DDC								\$0.00	
DDC								\$0.00	
DDC								\$0.00	
DDC								\$0.00	
DDC								\$0.00	
TOTAL					0.00	\$0.00	0.00	\$0.00	



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SECTION 01 81 13.13

**VOLATILE ORGANIC COMPOUND (VOC) LIMITS FOR ADHESIVES, SEALANTS, PAINTS AND COATINGS FOR
LEED v3 BUILDINGS**

REFER TO THE ADDENDUM FOR APPLICABILITY OF THIS SECTION 01 81 13.13

PART I – GENERAL

1.1 RELATED DOCUMENTS:

- A. The following documents apply to all required work for the Project: (1) the Contract Drawings, (2) the Specifications, (3) the General Conditions, (4) the Addendum, and (5) the Contract [City of New York Standard Construction Contract].

1.2 SUMMARY:

- A. This Section includes requirements for volatile organic compound (VOC) content in adhesives, sealants, paints and coatings used for the project.
- B. All sections in the Project Specifications with adhesives, sealant or sealant primer applications, paints and coatings will follow all requirements of this section. In the event of any conflict or inconsistency between this section and the Specifications regarding adhesives, sealant or sealant applications, paints and coatings, the requirements set forth in this Section will prevail.
- C. This Section includes:
 - 1. General Requirements
 - 2. References
 - 3. VOC Requirements for Interior Adhesives
 - 4. VOC Requirements for Interior Sealants
 - 5. VOC requirements for Interior Paints
 - 6. VOC requirements for Interior Coatings
 - 7. Submittals

1.3 RELATED SECTIONS: Include without limitation the following:

- A. Section 01 10 00 SUMMARY
- B. Section 01 31 00 PROJECT MANAGEMENT AND COORDINATION
- C. Section 01 32 00 CONSTRUCTION PROGRESS DOCUMENTATION
- D. Section 01 33 00 SUBMITTAL PROCEDURES
- E. Section 01 73 00 EXECUTION
- F. Section 01 77 00 CLOSEOUT PROCEDURES
- G. Section 01 78 39 CONTRACT RECORD DOCUMENTS
- H. Section 01 81 13 SUSTAINABLE DESIGN REQUIREMENTS FOR LEED v3 BUILDINGS
- I. Section 01 81 19 INDOOR AIR QUALITY FOR LEED BUILDINGS



1.4 DEFINITIONS:

- A. Refer to Article 2 of the Contract for definition of terms, words and expressions used in the General Conditions not otherwise defined herein.

ADHESIVE	Any substance used to bond one surface to another by attachment. Includes adhesive primers and adhesive bonding primers. A. Aerosol Adhesive: Any adhesive packaged as an aerosol with a spray mechanism permanently housed in a non-refillable can designed for hand-held application without the need for ancillary equipment.
CARCINOGEN	A chemical listed as a known, probable, reasonably anticipated, or possible human carcinogen by the International Agency for Research on Cancer (IARC) (Groups 1, 2A, and 2B), the National Toxicology Program (NTP) (Groups 1 and 2), the U.S. Environmental Protection Agency (EPA) Integrated Risk Information System (IRIS) (weight-of-evidence classifications A, B1, B2, and C, carcinogenic, likely to be carcinogenic, and suggestive evidence of carcinogenicity or carcinogen potential), or the Occupational Safety and Health Administration (OSHA).
CLEAR WOOD FINISH	Clear/semi-transparent coating applied to wood substrates to provide a transparent or translucent solid film. 1. Lacquer: Clear/semi-transparent coating formulated with cellulosic or synthetic resins to dry by evaporation without chemical reaction and provide a solid, protective film. 2. Sanding Sealer: A sanding sealer that also meets the definition of a lacquer. 3. Varnish: Clear/semi-transparent coating, excluding lacquers and shellacs, formulated to dry by chemical reaction on exposure to air. May contain small amounts of pigment.
COATING	Liquid, liquefiable, or mastic composition that is converted to a solid adherent film after application to a substrate as a thin layer; and is used for decorating, protecting, identifying or to serve some functional purpose such as the filling or concealing of surface irregularities or the modification of light and heat radiation characteristics; and is intended for on-site application to interior or exterior surfaces of buildings. Does not include stains, clear finishes, recycled latex paint, specialty (industrial, marine or automotive) coatings or paint sold in aerosol cans.
FLOOR COATING	Opaque coating applied to flooring. Excludes industrial maintenance coatings.
HAZARDOUS AIR POLLUTANT	Any compound listed by the U.S. EPA in the Clean Air Act, Section 112(b)(1) as a hazardous air pollutant.



MUTAGEN	A chemical that meets the criteria for category 1, chemicals known to induce heritable mutations or to be regarded as if they induce heritable mutations in the germ cells of humans, under the Harmonized System for the Classification of Chemicals Which Cause Mutations in Germ Cells (United Nations Economic Commission for Europe, Globally Harmonized System of Classification and Labeling of Chemicals).
OZONE-DEPLETING COMPOUNDS	A compound with an ozone-depletion potential greater than 0.1 (CFC 11=1) according to the U.S. EPA list of Class I and Class II Ozone-Depleting Substances.
PAINT	<p>A pigmented coating. For the purposes of this specification, paint primers are considered to be paints.</p> <ol style="list-style-type: none">1. Flat Coating or Paint: Has a gloss of less than 15 (using an 85-degree meter) or less than 5 (using a 60-degree meter).2. Non-Flat Coating or Paint: Has a gloss of greater than or equal to 15 (using an 85-degree meter) or greater than or equal to 5 (using a 60-degree meter).3. Non-Flat High-Gloss Coating or Paint: Has a gloss of greater than or equal to 70 (using a 60-degree meter).4. Anti-Corrosive / Rust Preventative Paint: Coating formulated and recommended for use in preventing the corrosion of ferrous metal substrates.
PRIMER	Coating that is formulated and recommended for one or more of the following purposes: to provide a firm bond between the substrate and a subsequent coating; to prevent a subsequent coating from being absorbed into the substrate; to prevent harm to a subsequent coating from materials in the substrate; or to provide a smooth surface for application of a subsequent coating.
REPRODUCTIVE TOXIN	A chemical listed as a reproductive toxin (including developmental, female, and male toxins) by the State of California under the Safe Drinking Water and Toxic Enforcement Act of 1986 (California Code of Regulations, Title 22, Division 2, Subdivision 1, Chapter 3, Sections 1200, et. Seq.).
SANDING SEALER	Clear/semi-transparent coating formulated to seal bare wood. Can be abraded to create a smooth surface for subsequent coatings. Does not include sanding sealers that are lacquers (see Clear Wood Finish above).
SEALANT	Any material with adhesive properties, formulated primarily to fill, seal, or waterproof gaps or joints between surfaces. Includes sealant primers and caulks.



SHELLAC	Clear or pigmented coating formulated solely with the resinous secretions of the lac beetle, thinned with alcohol and formulated to dry by evaporation without chemical reaction. Excludes floor applications.
STAIN	Clear semi-transparent/opaque coating formulated to change the color but not conceal the grain pattern or texture of the substrate.
VOLATILE AROMATIC COMPOUND	Any hydrocarbon compound containing one or more 6-carbone benzene rings, and having an initial boiling point less than or equal to 280 degrees Celsius measured at standard conditions of temperature and pressure.
VOLATILE ORGANIC COMPOUND	Any compound of carbon (excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate) which vaporizes (becomes a gas) and participates in atmospheric photochemical reactions, as specified in Part 51.00 of Chapter 40 of the U.S. Code of Federal Regulations, at normal room temperatures. For the purposes of this specification, formaldehyde and acetaldehyde are considered to be VOCs.
WATERPROOFING SEALER	A coating that prevents the penetration of water into porous substrates.

1.5 GENERAL REQUIREMENTS:

- A. The City of New York is committed to implementing good environmental practices and procedures which include achieving a LEED Green building rating. Specific project requirements related to this goal which may impact this area of work are listed in the applicable paragraphs of this specification section. The Contractor must ensure that the requirements as defined in the sections below and in related sections of the Contract Documents, are implemented to the fullest extent. Substitutions, or other changes to the work proposed by the Contractor or their Subcontractors, must not be allowed if such changes compromise the stated environmental goals.

1.6 REFERENCES:

- A. Rule 1168 – “Adhesive and Sealant Applications”, amended 7 January 2005): South Coast Air Quality Management District (SCAQMD), State of California, www.aqmd.gov
- B. Rule 1113 - “Architectural Coatings”, amended 9 July 2004: South Coast Air Quality Management District (SCAQMD), State of California, www.aqmd.gov
- C. Green Seal Standard GS-11- “Paints”, of Green Seal, Inc., Washington, DC, www.greenseal.org
- D. Green Seal Standard GC-03- “Anti-Corrosive Paints”, of Green Seal, Inc., Washington, DC, www.greenseal.org

1.7 VOC REQUIREMENTS FOR INTERIOR ADHESIVES, SEALANTS, PAINTS AND COATINGS:

- A. GENERAL: Unless otherwise specified herein, the VOC content of all interior adhesives, sealants, paints and coatings (herein referred to as “products”) must not be in excess of **250 grams per liter**.
- B. No product may contain any ingredients that are carcinogens, mutagens, reproductive toxins, persistent bioaccumulative compounds, hazardous air pollutants, or ozone-depleting compounds. An exception must be made for titanium dioxide and, for products that are pre-tinted by the manufacturer, carbon black, which must be less than or equal to 1% by weight of the product.

VOLATILE ORGANIC COMPOUND (VOC) LIMITS FOR ADHESIVES,
SEALANTS, PAINTS AND COATINGS FOR LEED v3 BUILDINGS



- C. No product will contain the following:
1. methylene chloride
 2. 1,1,1-trichloroethane
 3. benzene
 4. toluene
 5. ethylbenzene
 6. vinyl chloride
 7. naphthalene
 8. 1,2-dichlorobenzene
 9. di (2-ethylhexyl) phthalate
 10. butyl benzyl phthalate
 11. di-n-butyl phthalate
 12. di-n-octyl phthalate
 13. diethyl phthalate
 14. dimethyl phthalate
 15. isophorone
 16. antimony
 17. cadmium
 18. hexavalent chromium
 19. lead
 20. mercury
 21. formaldehyde
 22. methyl ethyl ketone
 23. methyl isobutyl ketone
 24. acrolein
 25. acrylonitrile
- D. No product will contain more than 1.0% by weight of sum total of volatile aromatic compounds.

1.8 VOC REQUIREMENTS FOR INTERIOR ADHESIVES:

- A. The volatile organic compound (VOC) content of adhesives, adhesive bonding primers, or adhesive primers used in this project must not exceed the limits defined in Rule 1168 – “Adhesive and Sealant Applications” of the South Coast Air Quality Management District (SCAQMD), of the State of California.
- B. The VOC limits defined by SCAQMD are as follows. All VOC limits are defined in grams per liter, less water and less exempt compounds.
- C. For specified building construction related applications, the allowable VOC content is as follows:
1. Architectural Applications:

a. Indoor carpet adhesive	50
b. Carpet pad adhesive	50
c. Wood flooring adhesive	100
d. Rubber floor adhesive	60
e. Subfloor adhesive	50
f. Ceramic tile adhesive	65
g. VCT and asphalt tile adhesive	50
h. Drywall and panel adhesive	50
i. Cove base adhesive	50
j. Multipurpose construction adhesive	70
k. Structural glazing adhesive	100
 2. Specialty Applications:

a. PVC welding	510
----------------	-----



- | | | |
|-------------------------------------|---|---------------------|
| b. | CPVC welding | 490 |
| c. | ABS welding | 325 |
| d. | Plastic cement welding | 250 |
| e. | Adhesive primer for plastic | 550 |
| f. | Contact Adhesive | 80 |
| g. | Special Purpose Contact Adhesive | 250 |
| h. | Structural Wood Member Adhesive | 140 |
| i. | Sheet Applied Rubber Lining Operations | 850 |
| j. | Top and Trim Adhesive | 250 |
| 3. Substrate Specific Applications: | | |
| a. | Metal to metal | 30 |
| b. | Plastic foams | 50 |
| c. | Porous material (except wood) | 50 |
| d. | Wood | 30 |
| e. | Fiberglass | 80 |
| 4. Aerosol Adhesives: | | |
| a. | General purpose mist spray | 65% VOC's by weight |
| b. | General purpose web spray | 55% VOC's by weight |
| c. | Special purpose aerosol adhesives (all types) | 70% VOC's by weight |

1.9 VOC REQUIREMENTS FOR INTERIOR SEALANTS:

- A. The volatile organic compound (VOC) content of sealants, or sealant primers used in this project must not exceed the limits defined in Rule 1168 – “Adhesive and Sealant Applications” of the South Coast Air Quality Management District (SCAQMD), of the State of California.
- B. The VOC limits defined by SCAQMD are as follows. All VOC limits are defined in grams per liter, less water and less exempt compounds.
- | | | |
|--------------------|---------------------------|-----|
| 1. Sealants: | | |
| a. | Architectural | 250 |
| b. | Non-membrane roof | 300 |
| c. | Roadway | 250 |
| d. | Single-ply roof membrane | 450 |
| e. | Other | 420 |
| 2. Sealant Primer: | | |
| a. | Architectural – Nonporous | 250 |
| b. | Architectural – Porous | 775 |
| c. | Other | 750 |

1.10 VOC REQUIREMENTS FOR INTERIOR PAINTS:

- A. Paints and Primers: Paints and primers used in non-specialized interior applications (i.e., for wallboard, plaster, wood, metal doors and frames, etc.) must meet the VOC limitations of the Green Seal Paint Standard GS-11, of Green Seal, Inc., Washington, DC. Product-specific environmental requirements are as follows:

1. Volatile Organic Compounds:
- a. The VOC concentrations (in grams per liter) of the product must not exceed those listed below as determined by U. S. Environmental Protection Agency (EPA) Reference Test Method 24.

Interior Paints and Primers:

Non-flat: 150 g/l

VOLATILE ORGANIC COMPOUND (VOC) LIMITS FOR ADHESIVES,
SEALANTS, PAINTS AND COATINGS FOR LEED v3 BUILDINGS



Flat: 50 g/l

The calculation of VOC must exclude water and tinting color added at the point of sale.

- B. Anti-Corrosive and Anti-Rust Paints: Anti-corrosive and anti-rust paints applied to interior ferrous metal substrates must meet the VOC limitations of the Green Seal Paint Standard GC-03, of Green Seal, Inc., Washington, DC. Product-specific environmental requirements are as follows:

1. Volatile Organic Compounds:

- a. The VOC concentrations (in grams per liter) of the product must not exceed those listed below as determined by U. S. Environmental Protection Agency (EPA) Reference Test Method 24.

Anti-Corrosive and Anti-Rust Paints: 250 g/l

The calculation of VOC must exclude water and tinting color added at the point of sale.

1.11 VOC REQUIREMENTS FOR INTERIOR COATINGS:

- A. Clear wood finishes, floor coatings, stains, sealers, and shellacs applied to the interior must meet the VOC limitations defined in Rule 1113, "Architectural Coatings" of SCAQMD, of the State of California. The VOC limits defined by SCAQMD, based on 7/9/04 amendments, are as follows. VOC limits are defined in grams per liter, less water and less exempt compounds.

1. Clear Wood Finishes:

- | | |
|--------------------|-----|
| a. Varnish | 350 |
| b. Sanding Sealers | 350 |
| c. Lacquer | 550 |

2. Shellac:

- | | |
|--------------|-----|
| a. Clear | 730 |
| b. Pigmented | 550 |

- | | |
|--------------------------|-----|
| 3. Stains | 250 |
| 4. Floor Coatings | 100 |
| 5. Waterproofing Sealers | 250 |
| 6. Sanding Sealers | 275 |
| 7. Other Sealers | 200 |

The calculation of VOC must exclude water and tinting color added at the point of sale.

1.12 SUBMITTALS:

- A. Submit Material Safety Data Sheets, for all applicable products in accordance with Section 01 33 00 SUBMITTAL PROCEDURES. Applicable products include, but are not limited to adhesives, sealants, carpets, paints and coatings. Material Safety Data Sheets must indicate the Volatile Organic Compound (VOC) limits of products submitted. (If an MSDS does not include a product's VOC limits, then product data sheets, manufacturer literature, or a letter of certification from the manufacturer can be submitted in addition to the MSDS to indicate the VOC limits).
- B. Submit Environmental Building Materials Certification Form (EBMCF) as referenced in Section 01 81 13.03 SUSTAINABLE REQUIREMENTS FOR LEED v3 BUILDINGS: For each field-applied adhesive, sealant, paint, and coating product, provide the VOC requirement, as provided in this Specification, for the relevant material category indicated on the documentation noted above.

PART II – PRODUCTS (Not Used)

PART III – EXECUTION (Not Used)

END OF SECTION 01 81 13.13



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**SECTION 01 81 19
INDOOR AIR QUALITY REQUIREMENTS FOR LEED BUILDINGS**

REFER TO THE ADDENDUM FOR APPLICABILITY OF THIS SECTION 01 81 19

PART I – GENERAL

1.1 RELATED DOCUMENTS:

- A. The following documents apply to all required work for the Project: (1) the Contract Drawings, (2) the Specifications, (3) the General Conditions, (4) the Addendum, and (5) the Contract [City of New York Standard Construction Contract].

1.2 CONSTRUCTION IAQ MANAGEMENT GOALS FOR THE PROJECT:

- A. The City of New York has determined that this Project must minimize the detrimental impacts on Indoor Air Quality (IAQ) resulting from construction activities. Factors that contaminate indoor air, such as dust entering HVAC systems and ductwork, improper storage of materials on-site, and poor housekeeping, must be minimized.

1.3 RELATED SECTIONS:

- A. All sections of the Specifications related to interior construction, MEP systems and items affecting indoor air quality.
- B. Division 9 (of the Specifications): Finishes.
- C. Refer to the Addendum to identify whether this project is designed to comply with a Certification Level according to the U.S. Green Building Council's LEED Rating System, as specified in Section 01 81 13.03 SUSTAINABLE DESIGN REQUIREMENTS FOR LEED v3 BUILDINGS or Section 01 81 13.04 SUSTAINABLE DESIGN REQUIREMENTS FOR LEED v4 BUILDINGS.
- D. Refer to the Addendum to identify whether this project is designed to comply with Section 01 81 13.13 VOLATILE ORGANIC COMPOUND (VOC) LIMITS FOR ADHESIVES, SEALANTS, PAINTS AND COATINGS FOR LEED v3 BUILDINGS.
- E. Section 01 91 13 GENERAL COMMISSIONING REQUIREMENTS FOR MEP SYSTEMS.

1.4 DEFINITIONS:

- A. Refer to Article 2 of the Contract for definition of terms, words and expressions used in the General Conditions not otherwise defined herein.

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.
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Volatile Organic Compounds (VOCs)	Chemical compounds common in and emitted by many building products, including solvents in paints, coatings, adhesives and sealants, wood preservatives, composite wood binder, and foam insulations. Not all VOCs are harmful, but many of those contained within building products contribute to the formation of smog and may irritate building occupants by their smell or health impact.
Materials that act as “sinks” for VOC contamination	Absorptive materials, typically dry and soft materials (such as textiles, carpeting, acoustical ceiling tiles and gypsum board) that readily absorb VOCs emitted by “source” materials and release them over a prolonged period of time.
Materials that act as “sources” for VOC contamination	Products with high VOC contents that emit VOCs either rapidly during application and curing (typically “wet” products, such as paints, sealants, adhesives, caulks and sealers) or over a prolonged period (typically “dry” products such as flooring coverings with plasticizers and engineered wood with formaldehyde).

1.5 REFERENCES, RESOURCES:

- A. “IAQ Guidelines for Occupied Buildings Under Construction”, Second Edition, 2007, The Sheet Metal and Air Conditioner Contractors National Association (SMACNA). (703) 803-2980, www.smacna.org.
- B. ANSI/ASHRAE 52.2-2007, “Method of Testing General Ventilation Air-Cleaning Devices for Removal Efficiency by Particle Size”, www.ashrae.org.

1.6 LEED BUILDING GENERAL REQUIREMENTS:

- A. Implement practices and procedures as necessary to meet the Project’s environmental performance goals as set forth in the specific requirements of this section. Specific Project goals that may impact this area of work include: use of recycled-content materials; use of low-emitting materials; construction waste recycling; and the implementation of a construction indoor air quality management plan. Ensure that the requirements related to these goals, as defined in this section, are implemented to the fullest extent. Substitutions or other changes to the work will not be allowed if such changes compromise the stated LEED building performance criteria.

1.7 CONSTRUCTION IAQ MANAGEMENT PLAN:

- A. The Contractor must prepare a Construction IAQ Management Plan in coordination with each Subcontractor and submit the Construction IAQ Management Plan to the Commissioner for approval in accordance with Section 01 33 00 SUBMITTAL PROCEDURES. The Construction IAQ Management Plan must meet the following criteria:
 - 1. Construction activities must be planned to meet or exceed the minimum requirements of SMACNA’s “IAQ Guidelines for Occupied Buildings under Construction”, Second Edition, 2007.
 - 2. Absorptive materials must be protected from moisture damage when stored on-site and after installation.
 - 3. The planned operation of air handlers during construction must be described. If air handlers are to be used during construction, filtration media with a Minimum Efficiency Reporting Value (MERV) of 8 must be used at each return air grille and return or transfer duct inlet opening, such that there is no bypass around the filtration media, as determined by ASHRAE 52.2-2007.
 - 4. Filtration media must be replaced immediately prior to occupancy. Filtration media must have a MERV of 13 as determined by ASHRAE 52.2-2007.
 - 5. A sequence of finish installation plan “Plan” must be developed, highlighting measures to reduce the absorption of VOCs by materials that act as “sinks”.



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6. The use of tobacco products is prohibited inside the building and within 25 feet of the building entrance during construction.
 7. A flush-out or air testing must be performed.
 8. Upon approval of the finish installation plan by the Commissioner, it must be implemented by the Contractor through the duration of the construction process, and documented in accordance with the Submittal Requirements of Sub-Section 1.8 herein.
- B. Detailed requirements of the Construction IAQ Management Plan are as follows:
1. SMACNA Guidelines: Chapter 3 of the referenced "IAQ Guidelines for Occupied Buildings Under Construction", outline IAQ measures in five categories as listed below. The Construction IAQ Management Plan must be organized in accordance with the SMACNA format, and must address measures to be implemented in each of the five categories (including subsections). All subsections must be listed in the Plan; items that are not applicable for this Project should be listed as such.
 - a. HVAC Protection
 - 1) Protect air handling, distribution equipment and air supply, and return ducting during construction.
 - 2) All ductwork arriving on site will be sealed with plastic sheeting and stored on pallets or dunnage until installed.
 - 3) Cover and protect all exposed air inlets and outlets, openings, grilles, ducts, plenums, etc. to prevent water, moisture, dust and other contaminant intrusion.
 - 4) Apply protection immediately after ducting.
 - 5) Protect ducting runs at the end of day's work.
 - 6) Inspect temporary filtration weekly and replace as required to maintain the proper ventilation rates in the building.
 - 7) To reduce debris and contamination to mechanical systems, do not store materials in mechanical rooms.
 - b. Source Control
 - 1) Protect stored on-site or installed absorptive or porous materials. Store materials in dry conditions indoors, under cover, and off the ground or floor.
 - 2) Do not use wet or damaged porous materials in the building. Materials which become contaminated through direct exposure to moisture from precipitation, plumbing leaks, or condensation must be replaced by the Contractor, at no additional cost to the City of New York.
 - 3) Use low-toxicity and low-VOC materials to the greatest extent possible.
 - 4) Recover, isolate, and ventilate containers housing toxic materials and materials with VOC levels above the limits for interior adhesives, sealants, paints, and coatings described in these Specifications.
 - 5) Prevent exhaust fumes from idling vehicles, equipment and fossil-fueled tools from entering the building.
 - 6) Containers housing toxic materials and materials with VOC levels above the limits for interior adhesives, sealants, paints, and coatings described in these Specifications, must be closed when not in use.
 - 7) Enforce the no-smoking job site policy.



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- c. Pathway Interruption
 - 1) Depressurize work areas which contain dust and odors.
 - 2) Pressurize occupied spaces to prevent intrusion of dust and odors.
 - 3) Erect barriers to contain construction areas.
 - 4) Relocate pollutant sources.
 - 5) Temporarily seal the building and provide 100% outside air for ventilation.
 - 6) Provide walk-off mats at entryways to reduce introduced dirt and pollutants.
 - 7) Use dust guards and collectors on saws and other tools.
 - d. Housekeeping
 - 1) Store materials on elevated platforms under cover, in a designated dry, clean location, prior to unpacking for installation.
 - 2) If materials are not stored in an enclosed location, cover tops and sides of material with waterproof sheeting, securely tied.
 - 3) Institute cleaning activities to remove contaminants from the building prior to occupancy. Clean all coils, air filters and ductwork prior to performing testing, adjusting and balancing of HVAC systems.
 - 4) Sweep the work area on a daily basis. Use an efficient and effective dust collecting method such as damp cloth, wet mop, or vacuum with high-efficiency particulate filters. Activities which produce high levels of dust must be cleaned up immediately upon completion.
 - 5) Spills or excess applications of products containing solvents, or with VOC levels above the limits for interior adhesives, sealants, paints and coatings described in these Specifications, must be removed immediately.
 - 6) Dust all walls prior to application of finishes.
 - 7) Vacuum all stud tracks prior to application of insulation.
 - 8) Keep materials organized to improve job safety as well as indoor air quality.
 - e. Scheduling
 - 1) Phase construction such that absorptive materials are installed only in areas that are weathertight.
 - 2) Schedule activities that utilize “sources” of VOC contamination to take place prior to installing high absorbent materials that will act as “sinks” for contaminants.
 - 3) Review of the appropriate components of the Construction IAQ Management Plan must be a regular action topic at weekly site coordination meetings. Implementation of the Plan must be documented in the meeting minutes.
- 2. Protection of Materials from Moisture Damage: As part of the “Source Control” section of the Construction IAQ Management Plan, measures to prevent installed materials or material stored on-site from moisture damage must be described. This section must also describe corrective measures to be taken if moisture damage does occur to absorptive materials during the course of construction (see Section 1.7 B.1.b).
 - 3. Replacement of Filtration Media: Under the “HVAC Protection” section of the Construction IAQ Management Plan, a description of the filtration media in all ventilation equipment must be provided.



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The description must include replacement criteria for filtration media during construction, and confirmation of filtration media replacement for all equipment immediately prior to occupancy.

4. Sequence of Finish Installation for Materials: Where feasible, absorptive materials must be installed after the installation of materials or finishes which have high short-term emissions of VOCs, formaldehyde, particulates, or other air-borne compounds. Absorptive materials include, but are not limited to: carpets; acoustical ceiling panels; fabric wall coverings; insulations (exposed to the airstream); upholstered furnishings; and other woven, fibrous or porous materials. Materials with high short-term emissions include, but are not limited to: adhesives, sealants and glazing compounds (specifically those with petrochemical vehicles or carriers); paints, wood preservatives and finishes; control and/or expansion joint fillers; hard finishes requiring adhesive installation; gypsum board (with associated finish processes and products); and composite or engineered wood products with formaldehyde binders.
5. Pre-Occupancy Phase: Perform either a flush-out or air sample testing (Options 1 or 2, respectively), as follows:

a. OPTION 1 — Flush-Out

- 1) Perform flush-out using either Path 1 or Path 2.
 - i. Path 1: After construction ends, prior to occupancy and with all interior finishes installed, install new filtration media and perform a building flush-out by supplying a total air volume of 14,000 cu.ft. of outdoor air per sq.ft. of floor area while maintaining an internal temperature of at least 60 degrees F and no higher than 80 degrees F and relative humidity no higher than 60%.
 - ii. Path 2: If occupancy is desired prior to completion of the flush-out, the space may be occupied following delivery of a minimum of 3,500 cu.ft. of outdoor air per sq.ft. of floor area to the space. Once a space is occupied, it must be ventilated at a minimum rate of 0.30 cfm/sq.ft. of outside air or the design minimum outside air rate determined in IEQ Prerequisite: Minimum Indoor Air Quality Performance, whichever is greater. During each day of the flush-out period, ventilation must begin a minimum of three hours prior to occupancy and continue during occupancy. These conditions must be maintained until a total of 14,000 cu.ft./sq.ft. of outside air has been delivered to the space.
- 2) Commissioning can occur during flush-out, at the discretion of the Commissioner, provided none of the commissioning procedures introduce contaminants into the space and none of the flush-out procedures circumvent the commissioning process. Complete testing and balancing of the HVAC system after the flush-out is complete. Refer to Section 01 91 13 GENERAL COMMISSIONING REQUIREMENTS FOR MEP SYSTEMS.
- 3) If even partial construction work occurs during the flush-out, the flush-out must be started again from the beginning for that space. If multiple, discrete HVAC systems operate independently, flush-out may be completed in portions of the building as work is completed in each area served by a given system.

OR

b. OPTION 2 — Air Testing

- 1) Conduct baseline IAQ testing, after construction ends and prior to occupancy, using testing protocols consistent with current versions of the United States Environmental Protection Agency "Compendium of Methods for the Determination of Air Pollutants in Indoor Air" or ISO methods, as additionally detailed in the USGBC "LEED BD+C Reference Guide."



- 2) Demonstrate that the contaminant maximum concentrations listed below are not exceeded.

CONTAMINANT	MAXIMUM CONCENTRATION
Formaldehyde	27 parts per billion
Particulates (PM10 for all buildings; PM25 for buildings in EPA nonattainment areas, or local equivalent)	PM10: 50 micrograms per cubic meter PM25: 15 micrograms per cubic meter
Ozone (for buildings in EPA nonattainment areas)	0.075 parts per million
Total Volatile Organic Compounds (TVOC)	500 micrograms per cubic meter
Target chemicals listed in the California Department of Public Health (CDPH) Standard Method c1.1, Table 4-1, except formaldehyde	CDPH Standard Method v1.1-2010, Allowable Concentrations, Table 4-1
Carbon Monoxide (CO)	9 part per million and no greater than 2 parts per million above outdoor levels

- 3) The air sample testing must be conducted as follows:
- All measurements must be conducted prior to occupancy, but during normal occupied hours and with the building ventilation system starting at the normal daily start time and operated at the minimum outside air flow rate for the occupied mode throughout the duration of the air testing.
 - The building must have all interior finishes installed, including but not limited to millwork, doors, paint, carpet and acoustic tiles. Non-fixed furnishings such as workstations and partitions are required to be in place for the testing.
 - Prior to air sample testing, all punch-list items that would generate VOCs or other contaminants, the testing and balancing of the HVAC system and finalization of all cleaning must be completed. Use low-emitting cleaning products and vacuum cleaners with HEPA filtration.
 - The number of sampling locations will vary depending upon the size of the building and number of ventilation systems. For each portion of the building served by a separate ventilation system, the number of sampling points must not be less than one per 25,000 sq.ft., or for each contiguous floor area, whichever is larger, and include areas with the least ventilation and greatest presumed source strength.
 - Air samples must be collected between 3 feet and 6 feet from the floor to represent the breathing zone of occupants, and over a minimum 4-hour period.
 - For each sampling point where the maximum concentration limits are exceeded, conduct additional flush-out with outside air and retest the specific parameter(s) exceeded to indicate the requirements are achieved. Repeat procedure until all requirements have been met. When retesting non-complying building areas, take samples from the same locations as in the first test.
6. Implementation and Coordination: Before Demolition and/or Construction begins, the Contractor must implement the Construction IAQ Management Plan, coordinate the Construction IAQ Management Plan with all affected trades, and designate one individual as the Construction IAQ Representative at no additional cost to the City of New York, who will be responsible for communicating the progress of the Construction IAQ Management Plan with the Commissioner monthly and for assembling the required LEED documentation. Include provisions in the Construction



IAQ Management Plan for addressing conditions in the field that do not adhere to the Plan, including provisions to implement a stop work order or to rectify non-compliant conditions.

- a. Distribution: The Contractor must distribute copies of the Construction IAQ Management Plan in accordance with Section 01 33 00 SUBMITTAL PROCEDURES.
- b. Instruction: The Contractor must provide on-site instruction of appropriate site management to all Contractor's Subcontractors.
- c. Monitoring: The Construction IAQ Representative must monitor the implementation of the Construction IAQ Management Plan.

1.8 SUBMITTALS:

- A. Submit the following LEED-required records and documents in accordance with Section 01 33 00 SUBMITTAL PROCEDURES and, as applicable, Section 01 81 13.03 SUSTAINABLE DESIGN REQUIREMENTS FOR LEED v3 BUILDINGS or Section 01 81 13.04 SUSTAINABLE DESIGN REQUIREMENTS FOR LEED v4 BUILDINGS.
- B. A copy of the Construction IAQ Management Plan as defined in Sub-Section 1.7 herein.
- C. IAQ Tracking Log
 1. Note date of observed major Construction IAQ issues, describe any damage, describe any repairs or maintenance of specific control measures performed and note responsible party.
 2. Note date and findings of weekly site review, describe any repairs or maintenance performed, and note responsible party. Provide date-stamped photographs, inspection reports or other recording processes.
 3. Submit log monthly.
- D. Product cut-sheets for all filtration media used during construction and installed immediately prior to occupancy, with MERV values highlighted. Cut sheets must be submitted with the Contractor's or Subcontractor's "approved" stamp as confirmation that the products are the products installed on the Project.
- E. PHOTOGRAPHS: Submit to the Commissioner a minimum of 18 photographs as required under the provision for special photographs, in accordance with Section 01 32 33 PHOTOGRAPHIC DOCUMENTATION, comprised of at least six photographs taken on three different occasions during construction of each IAQ measure. The photographs must document the implementation of the Construction IAQ Management Plan throughout the course of the Project construction. Examples include photographs of ductwork sealing and protection, temporary ventilation measures, and conditions of on-site materials storage (to prevent moisture damage). Photographs must include integral date stamping, and must be submitted with brief descriptions of the Construction IAQ Management Plan measure documented, or be referenced to Project meeting minutes or similar Project documents which reference to the Construction IAQ Management Plan measure documented.
- F. A copy of the Project's "Testing, Adjusting and Balancing" (TAB) report, if applicable.

1.9 QUALITY ASSURANCE:

- A. The Contractor will be responsible for preparing and implementing the Construction IAQ Management Plan and must coordinate and incorporate the work of its Subcontractors in the IAQ Management Plan. Include the Construction IAQ Management Plan requirements in contract agreements with Subcontractors. Familiarize Subcontractors with the Construction IAQ Management Plan and how the Construction IAQ Management Plan will affect their daily activities. Hold a Subcontractors' orientation meeting to review the Construction IAQ Management Plan requirements.
- B. Responsibility of Subcontractors: Subcontractors for this Project will be responsible for cooperating with the Contractor in the preparation and implementation of the Construction IAQ Management Plan.



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- C. Include construction IAQ progress check-ins as a regular item in weekly Subcontractor meetings and safety meetings. Provide a copy of the plan on site, posted in an easily accessible area.

PART II – PRODUCTS (Not Used)

PART III – EXECUTION (Not Used)

END OF SECTION 01 81 19



SECTION 01 91 13

GENERAL COMMISSIONING REQUIREMENTS FOR MEP SYSTEMS

REFER TO THE ADDENDUM FOR APPLICABILITY OF THIS SECTION 01 91 13

PART I – GENERAL

1.1 RELATED DOCUMENTS:

- A. The following documents apply to all required work for the Project: (1) the Contract Drawings, (2) the Specifications, (3) the General Conditions, (4) the Addendum, and (5) the Contract [City of New York Standard Construction Contract].
- B. The OPR and BOD documents are included by reference for information only.
- C. The Commissioning Plan, prepared by the Commissioning Agent (CxA) under separate contract with the City of New York, contains requirements that apply to this section.

1.2 SUMMARY:

- A. This section includes general requirements that apply to implementation of Commissioning without regard to systems, subsystems and equipment being commissioned. General Requirements for building enclosure commissioning are addressed in a separate specification.
- B. This Section includes:
 - 1. Definitions
 - 2. Commissioning Team
 - 3. City's Responsibilities
 - 4. Contractor's Responsibilities
 - 5. CxA Responsibilities
 - 6. Commissioning Documentation
 - 7. Submittals
 - 8. Coordination
 - 9. Execution

1.3 RELATED SECTIONS:

- A. System-Specific Commissioning requirements indicated in other sections of the Project Specifications for specific requirements for commissioning systems.
- B. This Project will be commissioned by an independent third party under separate contract with the City of New York. Commissioning must be in accordance with ASHRAE and USGBC LEED procedures, and specific commissioning requirements of the Project Specifications, whichever is more stringent. The Contractor must cooperate with the CxA and provide whatever assistance is required.
- C. Related sections include, without limitation, the following:
 - 1. Section 01 10 00 SUMMARY
 - 2. Section 01 31 00 PROJECT MANAGEMENT AND COORDINATION
 - 3. Section 01 32 00 CONSTRUCTION PROGRESS DOCUMENTATION
 - 4. Section 01 78 39 CONTRACT RECORD DOCUMENTS
 - 5. Section 01 79 00 DEMONSTRATION AND OWNER'S PRE-ACCEPTANCE ORIENTATION
 - 6. Section 01 81 13 SUSTAINABLE DESIGN REQUIREMENTS FOR LEED BUILDINGS
 - 7. Section 01 91 15 GENERAL COMMISSIONING REQUIREMENTS FOR BUILDING ENCLOSURE



1.4 DEFINITIONS:

- A. Refer to Article 2 of the Contract for definition of terms, words and expressions used in the General Conditions not otherwise defined herein.

Basis of Design (BOD)	A document, prepared by the Design Consultant, that records concepts, calculations, decisions, and product selections used to meet the OPR and to satisfy applicable regulatory requirements, standards, and guidelines. The document includes both narrative descriptions and lists of individual items that support the design process.
Checklists	Forms that outline the step-by-step process that must be executed to fulfill the test requirements and to verify that materials, equipment, assemblies and systems are installed in accordance with the Contract Documents. The CxA must develop the checklists; the Contractor must complete them.
Commissioning	Commissioning is a systematic process of ensuring and documenting that the building systems have been installed in the prescribed manner, are functionally checked and capable of being operated and maintained to perform with the design intent and have documentation to support proper installation and operation. The process does not eliminate or reduce the responsibility of the installing subcontractors to provide a finished product.
Commissioning Agent (Aka Commissioning Authority) (CxA)	Consultant under separate contract with the City of New York to provide Commissioning services for this Project. The CxA must not be an employee of the Contractor, nor will the CxA have any interest in the Contract.
Commissioning Plan	A document developed by the CxA that outlines the organization, schedule, roles and responsibilities, allocation of resources, and documentation requirements of the commissioning process.
Deferred Performance Tests	Performance tests that are performed, at the discretion of the CxA, after substantial completion, due to partial occupancy, equipment, seasonal requirements, design, or other site conditions that disallow the test from being performed.
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.
Factory Testing	Testing of equipment on-site or at the factory, by factory personnel, with or without the City's representative.
Functional Performance Test (FPT)	Functional performance testing includes the dynamic functions and operations of equipment and systems using manual or monitoring methods under various levels of operation. Systems are tested under various modes, such as during low cooling loads, high loads, component failures, unoccupied, varying outside air temperatures, fire alarms, power failure, etc. The systems are run through all the control system's sequences of operation and components are verified to respond as the sequences state. Such tests must be performed as per the protocol written by the CxA which defines the methods, personnel and expectations.
Issue (or Deficiency)	A condition in the installation or function of a component, piece of equipment, or system that is not in compliance with the Contract Documents.



Issues Log	A formal and ongoing record of problems, deficiencies or concerns that have been raised by members of the Commissioning Team during the course of commissioning. The Issues Log is the primary tracking tool to address all Commissioning Issues by concerned parties. All Issues must be addressed and resolved by the concerned parties before the closeout of the Project. This log tracks the resolution performed and date of closure of each Issue.
Master Equipment List (MEL)	A complete listing of all commissioned building equipment, including details such as make, model, location, ID Tag number, etc. that is taken from submittals and is the basis from which checklists will be generated. The MEL is a spreadsheet which is also used as a tracking tool for all milestones of the commissioning process, such as the creation and performance of checklists, startup of equipment, TAB work, etc.
Monitoring	The recording of parameters (flow, current, status, pressure, etc.) of equipment operation using data loggers or the trending capabilities of control systems.
Owner (City of New York) Contracted Tests	Tests paid for by the City of New York outside of the Contractor's Contract and for which the CxA does not provide oversight. These tests will not be repeated during functional testing if properly documented.
Owner's Project Requirements (OPR)	A document, prepared by the Design Consultant that details the functional requirements of a Project and the expectations of how it will be used and operated. These include Project goals, measurable performance criteria, cost considerations, benchmarks, success criteria, and supporting information.
Pre-functional (Installation) Checklists	A list of items to inspect and elementary component tests to conduct to verify proper installation of equipment, provided by the CxA to the Contractor. Installation checklists are primarily static inspections and procedures to prepare equipment or systems for initial operation. Pre-functional (Installation) checklists augment, and are combined with, the manufacturer's startup checklist. The Checklists are filled out by the Contractor and reviewed by the CxA.
Sampling	Functional testing for a percentage of the total number of identical or near-identical pieces of equipment.
Seasonal Performance Tests	Functional tests that are deferred until, or performed again when, the system(s) will experience climate conditions close to their design conditions.
Startup	The initial starting or activating of equipment, including executing construction checklists.
Systems, Subsystems, Equipment, and Components	Where these terms are used together or separately, they mean "as-built" systems, subsystems, equipment, and components.
Systems Manual	A system-focused composite document that includes the Operation and Maintenance Manual, and additional information of use to the owner during the occupancy and operations phase.
Testing, Adjusting and Balancing (TAB)	Testing, adjusting, and balancing of the Heating Hot Water (HHW), Chilled Water (CHW) and Heating, Cooling, and Ventilation Airflow distribution system flows and pressures as specified in Contract Documents by a subcontractor certified to perform such work.
Test Requirements	Requirements specifying what modes and functions, etc. must be tested on any given piece of equipment or any given system (integrated or standalone). The test requirements are not the detailed test procedures. The test requirements for each system are specified in the respective Contract Documents.



Trending	Monitoring using the building controls system, and analysis of the data gathered over a period of time.
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1.5 COMMISSIONING TEAM:

- A. Members Appointed by the Contractor and its Subcontractors: Individuals, each having authority to act on behalf of the entity he or she represents, explicitly organized to implement the Commissioning process through coordinated actions. The Commissioning Team will consist of, but not be limited to, representatives of the Contractor, including Project superintendent and Subcontractors, installers, suppliers and specialists deemed appropriate by the CxA.
- B. Members Appointed by the City:
 - 1. Commissioning Authority/Agent (CxA): The designated person, company, or entity under separate Contract with the City that plans, schedules and coordinates the Commissioning Team to implement the commissioning process.
 - 2. Representatives of the facility user and operation and maintenance personnel.
 - 3. Design Consultant and other concerned entities.

1.6 CITY'S RESPONSIBILITIES:

- A. Provide the OPR and BOD documentation to the CxA for use in developing the Commissioning Plan; systems manual; operation and maintenance orientation plan; and testing plans and checklists.
- B. Assign operation and maintenance personnel to participate in Commissioning Team activities.
- C. Provide full details and results of any Owner- contracted tests relevant to the current Project.

1.7 CONTRACTOR'S RESPONSIBILITIES:

- A. The Contractor must provide utility services required for the commissioning process.
- B. As a member of the Commissioning Team, the Contractor and Subcontractors must assign representatives with expertise and authority to act on behalf of the Contractor and its Subcontractor and schedule them to participate in and perform Commissioning Team activities including, but not limited to, the following:
 - 1. Participate in scheduled construction-phase coordination and Commissioning Team meetings.
 - 2. Integrate and coordinate commissioning process activities with the construction schedule.
 - 3. Provide all factory acceptance test reports to the CxA through the Commissioner.
 - 4. Respond to any additional specific information requests from the CxA. CxA may request additional documentation necessary for the commissioning process. Requests by CxA may precede, be concurrent with, or follow normal submittals.
 - 5. Ensure the cooperation and participation of all Subcontractors and manufacturers of equipment to be commissioned.
 - 6. Verify and confirm that components, equipment, and system are functioning as per design prior to CxA witnessing testing.
 - 7. Perform testing required in the Commissioning schedule as per the Commissioning process test procedures provided by the CxA, providing no less than 48 hours' notice to the CxA through the Commissioner.
 - 8. Complete installation checklists as Work is completed and return to CxA through the Commissioner.



9. Provide written responses to the CxA through the Commissioner for resolution of Issues recorded in the Issues Log within five (5) business days.
10. Evaluate performance deficiencies identified in test reports and, in collaboration with entity responsible for system and equipment installation, recommend corrective action.
11. Submit operation and maintenance manuals for systems and subsystems, and equipment in accordance with Section 01 78 39 CONTRACT RECORD DOCUMENTS. Such documents must be submitted prior to functional testing.
12. Submit As-Built documents in accordance with Section 01 78 39 CONTRACT RECORD DOCUMENTS.
13. Provide orientation sessions for operations and maintenance personnel (sessions will be witnessed by the CxA) in accordance with Section 01 79 00 DEMONSTRATION AND OWNER'S PRE-ACCEPTANCE ORIENTATION. Provide no less than 48 hours' notice to the CxA, through the Commissioner. Video record and edit orientation sessions and provide an electronic recording to the CxA and Commissioner no later than two (2) weeks after the orientation session occurs. Edit as requested by the Commissioner.

1.8 COMMISSIONING AGENT'S (CxA) RESPONSIBILITIES:

- A. Organize and lead the Commissioning Team.
- B. Prepare a construction-phase Commissioning Plan. Collaborate through the Commissioner with each Contractor and with Subcontractors to develop test and inspection procedures. Include design changes and coordinate Commissioning activities with the overall Project schedule. Identify Commissioning Team member responsibilities, by name, firm, and trade specialty, for performance of each commissioning task. Update the Commissioning Plan during construction as required.
- C. Review and comment in accordance with Section 01 33 00 SUBMITTAL PROCEDURES, on submittals from the Contractor for compliance with the OPR, BOD, Contract Documents, and construction-phase Commissioning Plan. Review and comment on performance expectations of systems and equipment and interface between systems relating to the OPR and BOD.
- D. Coordinate with the Commissioner, in accordance with Section 01 31 00 PROJECT MANAGEMENT AND COORDINATION, to convene Commissioning Team meetings for the purpose of coordination, communication and conflict resolution; discuss progress of the commissioning processes.
- E. At the beginning of the construction phase, coordinate with the Commissioner's kick-off meeting schedule to conduct an initial construction-phase coordination meeting for the purpose of reviewing the Commissioning activities and establishing tentative schedules for operation and maintenance submittals, operation and maintenance orientation sessions, TAB Work, testing, and Project completion.
- F. Perform site visits to observe and inspect construction as described in the Commissioning Plan. Report progress and deficiencies to the Commissioner. In addition to compliance with the OPR, BOD, and Contract Documents, inspect systems and equipment installation for adequate accessibility required for component maintenance replacement and repair.
- G. Prepare and distribute project-specific test and inspection procedures and checklists and maintain MEL.
- H. Verify air and water systems balancing by sampling, reviewing completed reports and selected site observation. Coordinate submittal reviews with the Commissioner so that the comments are combined into a single review and submitted to the Contractor.
- I. Coordinate with the Commissioner to witness and document tests, inspections and systems startup, as per the Commissioning Plan.



- J. Maintain an Issues Log and a record of functional testing. Report all Issues as they occur to the Commissioner.
- K. Compile test data, inspection reports and certificates, and include them in the systems manual and Commissioning Report.
- L. Certify date of acceptance and startup for each item of equipment for start of warranty periods.
- M. Review and comment on operation and maintenance documentation and systems manual outline for compliance with the OPR, BOD, and Contract Documents. Operation and maintenance documentation requirements are specified in other sections of the Project Specifications and described in Section 01 78 39 CONTRACT RECORD DOCUMENTS.
- N. Review agenda for orientation; witness and confirm orientation session conforms with agenda and Contract Documents; review recording of demonstration and orientation sessions provided by the Contractor on USB drive or other electronic media as requested by the Commissioner and provide appropriate comments for editing.
- O. Return to the site ten (10) months into the twelve (12)-month guaranty period, to review with facility staff the current building operation and the condition of outstanding Issues related to the original and seasonal commissioning. Interview facility staff and identify problems or concerns they have with operating the building as originally intended.
- P. Prepare Commissioning Reports.
- Q. Assemble the final commissioning documentation, including the Commissioning Report and Systems Manual.
- R. Perform all CxA tasks as defined by LEED and the NYC Energy Conservation Code; prepare LEED submittal documents and preliminary and final Commissioning Reports as required by the NYC Energy Conservation Code.

1.9 COMMISSIONING DOCUMENTATION:

The Contractor must assist the CxA in the development and compiling of the following Commissioning Documentation:

- A. Index of Commissioning Documents: The CxA will prepare an index including the storage location of each document.
- B. Commissioning Plan: A document prepared by the CxA that outlines the schedule, allocation of resources, roles and responsibilities, and documentation requirements of the Commissioning process.
- C. Test Checklists: The CxA will develop test checklists for each system, subsystem, or equipment including interfaces and interlocks, and include a separate entry, with space for comments, for each item to be tested. The CxA will prepare separate checklists for each mode of operation and provide space to indicate whether the mode under test responded as required. Space will be provided for testing personnel to sign off on each checklist. Specific checklist content requirements are specified in other sections of the Project Specifications, but must include without limitation:
 - 1. Identification of tested item
 - 2. Date of test
 - 3. Indication of whether the record is for a first test or retest following correction of a problem or Issue
 - 4. Dated signatures of the person performing the test and of the witness if applicable
 - 5. Deficiencies and Issues, if any, generated as a result of the test



- D. Inspection Checklists will be signed by the Contractor, Subcontractor(s), Installer(s), and CxA certifying that systems, subsystems, equipment, and associated controls are ready for testing.
- E. Test and Inspection Reports: The CxA will record test data, observations, and measurements on test checklists. Photographs, forms, and other means appropriate for the application will be included with data. CxA must compile test and inspection reports and test and inspection certificates and include them in systems manual and Commissioning Report.
- F. Corrective Action Documents: The CxA will document corrective action taken for systems and equipment that fail tests and include required modifications to systems and equipment and revisions to test procedures, if any. The Contractor must retest systems and equipment requiring corrective action. The CxA will document retest results.
- G. Issues Log: The CxA will prepare and maintain an Issues Log that describes design, installation, and performance Issues that are at variance with the OPR, BOD, and Contract Documents. The log will identify and track Issues as they are encountered, documenting the status of unresolved and resolved Issues. The Issues Log will identify, at a minimum:
 - 1. The party responsible for correcting the Issue,
 - 2. The person documenting the Issue resolution,
 - 3. The exact location of the Issue (floor and room),
 - 4. The applicable system component,
 - 5. A detailed description of the Issue,
 - 6. The Issue status, and
 - 7. The date the Issue was discovered and the date the Issue was resolved.
- H. Commissioning Report: The CxA will document results of the commissioning process including unresolved Issues and performance of systems, subsystems, and equipment. The Commissioning Report will indicate whether systems, subsystems, and equipment have been completed and are performing according to the OPR, BOD, and Contract Documents. The Commissioning Report must include:
 - 1. An executive summary, including participants and their roles, a brief building description, an overview of the commissioning and testing scope, and a general description of testing and verification methods,
 - 2. Installation/Pre-Functional Checklists,
 - 3. Start-up reports,
 - 4. Functional Test documentation,
 - 5. Trend Log Analysis,
 - 6. The final Issues Log, with all Issues identified through the commissioning process, identifying which, if any, Issues remain unresolved,
 - 7. The Commissioning Plan,
 - 8. Commissioning progress and field reports,
 - 9. Commissioning review documents, and
 - 10. Record of owner's orientation.
- I. Systems Manual: The CxA will gather required information and compile systems manual as specified in other sections of the Project Specifications and described in Section 01 78 39 CONTRACT RECORD DOCUMENTS.



1.10 SUBMITTALS:

- A. Submittal of shop drawings, product data, samples, etc., relevant to commissioning must be provided to the CxA as requested. Such submittals must be in compliance with Section 01 33 00 SUBMITTAL PROCEDURES.
- B. As-Built Contract Record Drawings and Operating and Maintenance Manuals relevant to commissioning must be provided to the CxA as requested. Such submittals must be in compliance with Section 01 78 39 CONTRACT RECORD DOCUMENTS.
- C. All demonstration and orientation submittals relevant to commissioning must be provided to the CxA as requested. Such submittals must be in compliance with Section 01 79 00 DEMONSTRATION AND OWNER'S PREACCEPTANCE ORIENTATION.
- D. Completed Prefunctional (Installation) Checklists must be provided to the CxA prior to equipment startup.

1.11 COORDINATION:

- A. Coordination of Commissioning is the responsibility of all Commissioning Team members.
- B. Coordinating Meetings: The CxA will coordinate with the Commissioner's regularly scheduled construction progress meetings to conduct coordination meetings of the Commissioning Team to review progress on the Commissioning Plan, to discuss scheduling conflicts, and to discuss upcoming commissioning process activities. Commissioner and Contractor must ensure that all required Commissioning Team members attend.
- C. Construction Documents: The Contractor, through the Commissioner, will furnish copies of all construction documents, addenda, change orders and appropriate submittals and shop drawings to the CxA.
- D. Pre-testing Meetings: The CxA will coordinate with the Commissioner to conduct pretest meetings of the Commissioning Team to review startup reports, pretest inspection results, testing procedures, testing personnel and instrumentation requirements, and manufacturers' authorized service representative services for each system, subsystem, equipment, and component to be tested. Commissioner and Contractor must ensure that all required Commissioning Team members attend.
- E. Testing Coordination: Contractor must coordinate schedule times with the Commissioning Team, through the Commissioner, for tests, inspections, obtaining samples, and similar activities. The CxA will advise the Commissioning Team as to the sequence of testing activities to accommodate required quality-assurance and -control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspecting.
- F. Manufacturers' Field Services: The Contractor must coordinate manufacturers' field services, as per the Commissioning Plan.
- G. The CxA will regularly apprise the Commissioner of progress, pending problems and/or disputes, as well as provide regular status reports on progress with each system.

PART II – PRODUCTS

2.1 TEST EQUIPMENT

- A. All industry standard test equipment required for performing the specific tests must be provided by the Contractor responsible for testing. Any proprietary Vendor-specific test equipment must be provided by that Vendor or Manufacturer.
- B. Special equipment, tools, instruments, software, and equipment communication network access hardware and software (only available from Vendor, specific to the piece of equipment) required for testing equipment according to the Contract Documents must be included at no extra cost to the City and must be turned over



to the City at Project close-out, except for stand-alone data logging equipment that may be used by the CxA.

- C. Any portable or handheld setup and/or calibration devices required to initialize the control system must be made available by the control vendor for use by the CxA at no additional cost to the City.
- D. The instrumentation used in the commissioning process must comply with the following:
 - 1. Be of sufficient quality and accuracy to test and/or measure system performance within the tolerances required
 - 2. Be calibrated at the manufacturer's recommended intervals with calibration tags permanently affixed to the instrument
 - 3. Be maintained in good repair and operating condition throughout use duration on this Project
 - 4. Be immediately recalibrated or repaired if dropped and/or damaged in any way during this Project.

PART III – EXECUTION

3.1 COMMISSIONING PROCESS

- A. The following provides an overview of the Commissioning tasks during Project construction and the general order in which they occur.
 - 1. Construction-phase Commissioning begins with a Commissioning Kickoff Meeting, conducted by the CxA through the Commissioner in accordance with section 01 31 00 PROJECT MANAGEMENT AND COORDINATION, where the Commissioning process is reviewed with all the Commissioning Team Members.
 - 2. Additional meetings may be required throughout construction, scheduled by the CxA through the Commissioner in accordance with 01 31 00 PROJECT MANAGEMENT AND COORDINATION with necessary parties attending, to plan, scope, coordinate and schedule future activities and resolve open Issues.
 - 3. The CxA will review the Contractor submittals concurrent with the Commissioner and provide comments to the Commissioner for inclusion in their review. The reviewed submittals will include all commissioned equipment information, including detailed startup procedures, and coordination drawings that include commissioned equipment and systems, control drawings and sequences, and interfaces and interlocks between systems.
 - 4. The CxA works with the Commissioner and Contractor in developing Pre-functional and Functional Test documentation formats.
 - 5. Periodically throughout the construction process, the CxA will perform site visits to observe component and system installations.
 - 6. The checkout and performance verification generally proceeds from component level to equipment to systems and intersystem levels. Pre-functional (Installation) Checklists are to be completed before equipment startup. Equipment startup must be completed before TAB. TAB must be completed before the Functional Performance Checklists.
 - 7. The Contractor must, with guidance from the CxA, execute and document the Pre-Functional (Installation) Checklists and perform startup and initial checkout of equipment and systems. The CxA documents that the checklists and startup are completed according to the approved plans. This will include the CxA witnessing selected assembly markups, portions of the startup of selected equipment, and spot checking the Pre-Functional (Installation) Checklists.
 - 8. The CxA develops specific equipment and system Functional Checklists. The Contractor receives a copy of the procedure through the Commissioner. The CxA may request additional design



narrative from the Commissioner and Controls Contractor, depending on the completeness of the Basis of Design and sequences provided within the design documents.

9. The Functional Checklists are executed by the Contractor and witnessed and documented by the CxA.
10. Items of non-compliance in material, installation startup, and operation are corrected and the equipment or system is rechecked. The CxA will maintain an Issues Log to track Issues and Issue resolution.
11. The CxA will review the Operation & Maintenance documentation for completeness.
12. Commissioning, excluding the Warranty Walkthrough and any seasonal testing at the written direction of the Commissioner, must be completed prior to Substantial Completion.
13. The CxA reviews the orientation documentation. The orientation schedules and agenda are provided by the subcontractors. The CxA verifies that orientation is completed, attended by the appropriate City of New York personnel, is thorough and provides all necessary information required to operate and service the equipment or system.
14. Deferred testing/checkouts are conducted, as specified or required in the Contract Documents.

3.2 COMMISSIONING PLAN AND SCHEDULE

- A. Commissioning Plan: The Commissioning Plan provides guidance in the execution of the commissioning process. After the initial construction phase Commissioning kickoff meeting, the CxA will update the plan. This plan is a living document that must evolve and expand as the Project progresses. The Commissioning Plan must include:
 1. Description of the facility and Project.
 2. Description of the commissioning process and associated deliverable documents.
 3. Description of equipment and systems to be commissioned.
 4. Description of schedules for testing procedures along with identification of parties involved in performing and verifying tests.
 5. Sample rates for equipment to be tested.
 6. Identification of task items that must be completed before the next operation can proceed.
 7. Description of responsibilities of Commissioning Team members.
 8. Description of observations to be made and reported on during testing and witnessing of testing by all parties involved in the Project.
- B. Commissioning Schedule: Contractor must provide construction schedules to the CxA, in accordance with Section 01 31 00 PROJECT MANAGEMENT AND COORDINATION. The CxA will develop and submit a schedule identifying the commissioning process and provide commissioning scheduling information to the Commissioner and Contractor for review and planning activities. The Contractor must incorporate the CxA's activities into the Project schedule.

3.3 TESTING PROCEDURES

- A. The CxA will determine and document the acceptance procedures for each system within disciplines. The acceptance procedures must incorporate the commissioning standards and successful testing results as referred to throughout the Specifications.



- B. The CxA will provide performance checklists and performance checkout data sheets for each system based on actual system configuration. Special emphasis must be placed on checkout procedures that must conclusively determine actual system performance and compliance with the OPR and BoD.
- C. The Contractor and appropriate Vendor(s) must be informed of what tests are to be performed and the expected results. The Commissioning Plan must address the test requirements and be distributed to all parties involved with that system.
- D. Prior to Functional Testing, the Contractor must provide the following:
 - 1. Contractor must certify in writing that commissioned systems, subsystems, and equipment have been installed, calibrated and started, and are operating according to the Contract Documents.
 - 2. Contractor must certify in writing that all relevant instrumentation and control systems have been completed and calibrated; are operating according to the Contract Documents; and that pretest set points have been recorded.
 - 3. Contractor must certify in writing that TAB procedures have been completed, and that the TAB report has been submitted, discrepancies corrected, and corrective work approved.
 - 4. Contractor must perform tests for system and intersystem performance only after CxA and Commissioner have approved the completed testing checklists for systems, subsystems, and equipment.
- E. The Functional Performance tests must be performed by the Contractor and Vendor(s) with oversight by the CxA. The CxA must witness, verify, and document these tests.
 - 1. Functional Performance Tests must include operating the systems and components through each of the written sequences of operation, other significant modes of miscellaneous alarms, power failure, and security alarm when impacted by and interlocked with commissioned equipment, as detailed in the Commissioning Plan.
 - 2. Checklists must be completed comprehensively and to the extent necessary to enable the CxA to assure the Commissioner that the systems perform as per the OPR, BOD, and Contract Documents.
 - 3. If a test is failed for any reason and retesting is required, the Contractor must provide retesting at no additional cost to the City.
 - 4. If a test must be witnessed more than twice by the Commissioning Agent due to repeated failure to perform as per the design documents, the Contractor must be responsible for the Commissioning Agent's fee for witnessing repeated tests beyond the second incidence. Such fee will be negotiated between the Commissioning Agent and the Commissioner.
 - 5. After testing, Contractor must return settings to normal operating conditions.

3.4 OPERATION & MAINTENANCE MANUALS

- A. General
 - 1. The CxA must review the Operation & Maintenance manuals provided by the Contractor for completeness of the document. The review process will verify that Operation & Maintenance instructions meet Specifications and are included for all commissioned equipment furnished by the Contractor.
 - 2. Published literature will be specifically oriented to the provided equipment, indicating required operation and maintenance procedures, parts lists, assembly / disassembly diagrams and related information.



3. The Contractor must incorporate the standard technical literature into system-specific formats for this facility as designed and as actually installed. The resulting Operation & Maintenance information must be system-specific, concise, to the point and tailored specifically to this facility. The CxA must review these documents as necessary for final corrections by the Contractor.
 4. Contractor must submit Operations & Maintenance Manuals for each piece of equipment for review no later than 45 days after submittal approval.
- B. The Operation & Maintenance Manual review and coordination efforts must be completed prior to Owner orientation sessions, as these documents are to be utilized in the orientation sessions.
- C. System Operations Manual
1. The CxA must prepare and deliver these documents with inputs from the Contractor. The Contractor must provide all required documents to the CxA, through the Commissioner. The required documents must be described in the Commissioning Plan and Contract Documents. Typically, the manual includes the following:
 - a. System, subsystem, and equipment descriptions
 - b. Commissioned systems single line diagrams (to be provided by Mechanical, Electrical, Plumbing, and Building Management System (BMS) subcontractors).
 - c. As built sequences of operations, control drawings and original set points (to be provided by Design Consultant and BMS subcontractor).
 - d. Operating instructions for integrated building systems (to be provided by Mechanical and BMS subcontractors).
 - e. Recommended schedule of maintenance requirements and frequency (to be provided by subcontractors).
 - f. Recommended schedule for calibrating sensors and actuators (to be provided by BMS subcontractor).

3.5 DEMONSTRATION AND INSTRUCTION

- A. The Contractor must schedule and coordinate instruction sessions for the facility's staff for each commissioned system. Demonstrations must be held per Contract Documents, along with the appropriate schematics, handouts and visual / audio orientation aids onsite with equipment.
- B. The equipment vendors must provide instruction on the specifics of each major equipment item including philosophy, troubleshooting and repair techniques.
- C. The Contractor must record and edit demonstration and orientation sessions, and provide these records to the CxA, through the Commissioner.
- D. For additional direction pertinent to instruction, refer to other specific divisions for demonstration and instruction requirements.

3.6 WARRANTY REVIEW / SEASONAL TESTING

- A. The CxA will return upon the start of the new season (cooling or heating) after Project completion to conduct performance tests that could not be performed due to ambient conditions. The seasonal testing will only be performed if suitable loads / conditions were unavailable during the performance testing stages (in other words; the requirement for testing is warranted), and at the written direction of the Commissioner.
- B. The CxA will return to the site approximately ten (10) months into the twelve (12)-month guaranty period and interview the occupants and maintenance staff, review the operation of the building, provide recommendations for installation and operational problems and document warranty and operational Issues in the Issues database.



3.7 RECORD DRAWINGS

- A. The CxA must review the as built Contract Documents to verify incorporation of both design changes and as-built construction details. Discrepancies noted must be corrected by the appropriate party.

END OF SECTION 01 91 13



**Department of
Design and
Construction**

Division 01 – DDC STANDARD GENERAL CONDITIONS
SINGLE CONTRACT PROJECTS
Issue Date: January 1, 2022

(No Text This Page)



**SECTION 01 91 15
GENERAL COMMISSIONING REQUIREMENTS FOR BUILDING ENCLOSURE**

REFER TO THE ADDENDUM FOR APPLICABILITY OF THIS SECTION 01 91 15

PART I – GENERAL

1.1 RELATED DOCUMENTS

- A. The following documents apply to all required work for the Project: (1) the Contract Drawings, (2) the Specifications, (3) the General Conditions, (4) the Addendum, and (5) the Contract [City of New York Standard Construction Contract].
- B. The Owner's Project Requirements (OPR) and Basis of Design (BOD) documents are included by reference for information only.
- C. The Commissioning Plan, prepared by the Commissioning Agent (CxA) under separate contract with the City of New York, contains requirements that apply to this section.

1.2 SECTION INCLUDES

- A. This section includes the commissioning requirements for the Building Enclosure systems. Refer to "Exterior Enclosure Commissioning" in other sections of the Project Specifications for specific requirements regarding Building Enclosure Commissioning.
 - 1. The commissioning requirements for the Building Enclosure systems given in this section are entirely separate from, and in addition to, the Section 01 91 13 GENERAL COMMISSIONING REQUIREMENTS FOR MEP SYSTEMS for this Project. The Contractor, and his/her Suppliers, Subcontractors, Vendors, etc., are required to participate in both commissioning processes as required.

1.3 DESCRIPTION

- A. Building Enclosure Commissioning (BECx) is a systematic process of ensuring all building enclosure systems responsible for environmental separation perform as per the OPR and BOD. The BECx process is intended to verify and document proper installation and performance of building enclosure materials and systems in accordance with the Contract Documents.
- B. Commissioning does not take away from, or reduce, the Contractor's responsibility to provide a finished and fully functioning product and installation.
- C. This section will in no way diminish the responsibility of the Contractor in performing all aspects of work and testing as outlined in the Contract Documents. Any requirements outlined in this section are in addition to requirements outlined in the Contract Drawings and Specifications.

1.4 RELATED WORK

- A. Specific BECx requirements are given in this Section. The following Project Specification sections are related to the commissioning work specified in this section:
 - 1. Basic Concrete Requirements: Refer to Division 03
 - 2. Basic Metal Requirements: Refer to Division 05
 - 3. Basic Waterproofing, Roofing, Air Barrier and Insulation Requirements: Refer to Division 07
 - 4. Basic Fenestrations Requirements: Refer to Division 08
 - 5. Basic Finishing Requirements: Refer to Division 09



1.5 DEFINITIONS AND ABBREVIATIONS

- A. Refer to Article 2 of the Contract and Section 01 91 13 GENERAL COMMISSIONING REQUIREMENTS FOR MEP SYSTEMS for terms, words, and expressions not otherwise defined herein.

Approval	Acceptance that a material or system has been properly installed and is functioning in tested modes according to the Contract Documents.
Building Enclosure Commissioning Agent (BECA)	BECA directs and coordinates day-to-day BECx commissioning activities.
Building Enclosure Testing Agency (BETA)	Building Enclosure Testing Agency whom is an independent agency retained by the Contractor and approved by the Commissioner, fully accredited by the appropriate governing body for each of the materials, components or systems to be tested or evaluated for compliance with requirements of the Contract Documents and as directed by the BECA. Documentation of such certification must be submitted to and approved by the Commissioner prior to the start of any work by the BETA.
Commissioning	Commissioning is a systematic process of ensuring and documenting that the building systems have been installed in the prescribed manner, are functionally checked and capable of being operated and maintained to perform with the design intent, and have documentation to support proper installation and operation. The process does not eliminate or reduce the responsibility of the installing subcontractors to provide a finished product.
Commissioning Agent (CxA)	Refer to Section 01 91 13 GENERAL COMMISSIONING REQUIREMENTS FOR MEP SYSTEMS for Definition.
Commissioning Plan	Refer to Section 01 91 13 GENERAL COMMISSIONING REQUIREMENTS FOR MEP SYSTEMS for Definition.
Deficiency	Condition of a building enclosure material or system that is not in compliance with Contract Documents (that is, does not perform properly or does not comply with design intent).
Design Consultant	Refer to Section 01 91 13 GENERAL COMMISSIONING REQUIREMENTS FOR MEP SYSTEMS for Definition.
Simulated Condition	Condition created for testing component or system (e.g., applying pressure differential across the building enclosure concurrent with water spray to simulate a wind driven rain).
Mock-up	The activities where systems or materials are initially constructed and tested.

1.6 COORDINATION

- A. Building Enclosure Commissioning Team: Members of the Building Enclosure Commissioning Team will consist of:
1. CxA
 2. BECA
 3. BETA
 4. Commissioner
 5. Contractor, and all Building Enclosure Subcontractors
 6. Design Consultant
- B. Management: City of New York will contract services of the BECA through a separate contract. The BECA will direct and coordinate commissioning activities and report to the Commissioner. All members of the



Building Enclosure Commissioning Team must cooperate to fulfill contracted responsibilities and objectives of the Contract Documents.

- C. Scheduling: BECA must work with the Building Enclosure Commissioning Team to establish required commissioning activities to incorporate into the preliminary commissioning schedule. The Contractor must integrate commissioning activities into master construction schedule, in accordance with Section 01 32 00 CONSTRUCTION PROGRESS DOCUMENTATION. Necessary notifications are to be made in a timely manner in order to expedite commissioning.

1.7 SUBMITTALS

- A. Contractor must provide documentation required for commissioning work in accordance with Section 01 33 00 SUBMITTAL PROCEDURES. At minimum, documentation must include, but not be limited to:
1. Submittal of shop drawings, product data, samples, etc., relevant to BECx and as requested by the BECA. Such submittals must be in compliance with Section 01 78 39 CONTRACT RECORD DOCUMENTS.
 2. As-Built Record Drawings and Operation and Maintenance Information relevant to BECx and as required by the BECA. Such submittals must be in compliance with Section 01 78 39 CONTRACT RECORD DOCUMENTS.
 3. All demonstration and orientation submittals relevant to BECx and as requested by the BECA. Such submittals must be in compliance with Section 01 79 00 DEMONSTRATION AND OWNER'S PREACCEPTANCE ORIENTATION.
 4. Performance data, any performance test procedures, and installation and checkout materials.
- B. The Contractor must provide all submittals to the Design Consultant, as per Section 01 33 00 SUBMITTAL PROCEDURES. The Design Consultant will transmit all building enclosure related submittals to the BECA for concurrent review.

PART II – PRODUCTS (Not Used)

PART III – EXECUTION

3.1 SYSTEMS TO BE COMMISSIONED

- A. Building Enclosure systems to be commissioned may include, but are not limited to, Roof waterproofing, including garden roof systems, all penetrations, and transitions; skylights and other sloped glazing; exterior walls, including the air barrier system, water management systems, and thermal insulation; punched windows, window walls, curtain walls, storefronts, glazed entries, doors, and louvers; sealants, expansion joints, and control joints; flashings, including all transitions and end-dams; terrace, balcony, and deck waterproofing; below-grade waterproofing, including drainage, waterproofing and damp proofing; below slab floor barriers; interface and transition conditions between exterior enclosure components and systems; smoke controls and fire separation and stopping; and any other special building enclosure systems, equipment, and controls. Refer to the Contract Documents for clarity.

3.2 RESPONSIBILITIES OF COMMISSIONING TEAM MEMBERS DURING CONSTRUCTION PHASE

- A. Responsibilities of the Design Consultant include without limitation the following:
1. Review BECA comments on construction documents and shop drawings.
 2. Assist in dispute resolution regarding building enclosure items.
 3. Review BECA reports.
 4. Incorporate BECA Submittal Review Comments into response on submittals.
- B. Responsibilities of the BECA include the following without limitation:



1. Review and comment on Mock-up construction and testing plan as provided by Contractor.
 2. Development of BECx Plan.
 3. Review of building enclosure shop drawings and submittals, including “approved equal” requests, through the Commissioner in accordance with Section 01 33 00 SUBMITTAL PROCEDURES.
 4. Attend combined pre-construction and BECx kick-off meeting.
 5. Develop construction checklists for the building enclosure for the Contractor’s use.
 6. Observe the construction of a building enclosure Mock-up.
 7. Witness the testing of a building enclosure Mock-up.
 8. Project meetings / conference calls / coordination.
 9. Field monitor installation of exterior enclosure components.
 10. Update field report log.
 11. Update BECx Plan.
 12. Advise on Requests for Information.
 13. Assist with the preparation of LEED paperwork.
 14. Prepare systems manual, with required inputs and documentation from the Contractor in accordance with Section 01 78 39 CONTRACT RECORD DOCUMENTS.
 15. Complete Maintenance Plan, with required inputs and documentation from the Contractor in accordance with Section 01 78 39 CONTRACT RECORD DOCUMENTS.
 16. Prepare training manual, with required inputs and documentation from the Contractor in accordance with Section 01 78 39 CONTRACT RECORD DOCUMENTS.
 17. Prepare final BECx record and enclosure commissioning close-out documents.
 18. Develop on-going BECx Plan.
- C. Responsibilities of the Contractor and Building Enclosure Subcontractors include without limitation the following:
1. Review BECx Plan and FPT specification.
 2. Attend commissioning kick-off meeting and other Building Enclosure Commissioning Team meetings.
 3. Incorporate commissioning activities into the construction schedule.
 4. Periodically update Commissioning activities in the construction schedule.
 5. Notify Commissioner and BECA of work completion.
 6. Verify building enclosure materials and assemblies are ready for functional testing.
 7. Retain the services of an approved independent BETA; submit qualifications of independent BETA to Commissioner for approval; coordinate all activities and deliverables of this BETA; ensure all BETA deliverables are provided to the Building Enclosure Commissioning Team.
 8. Attend all required material and systems testing.
 9. Execute all periodic maintenance or repairs required on started systems from initial Mock-up of equipment to Final Acceptance by Commissioner to prevent material warranties from being voided.
 10. Submit maintenance logs of all interim maintenance or repair tasks performed by Contractor.



11. Ensure installation work is complete, is in compliance with Contract Documents, and is ready for Functional Performance Testing. FPT test results will be documented by BECA.
 12. Ensure resolution of non-compliance and deficiencies in construction or test results. Obtain written documentation of completion from the appropriate subcontractors.
 13. Provide letters of compatibility for adjacent building enclosure materials and assemblies.
 14. Facilitate all repairs and retesting of failed condition at no additional cost to the City of New York.
 15. Provide all warranty information to BECA.
- D. Responsibilities of the BETA include without limitation the following:
1. Attend Commissioning kick-off meeting and other Building Enclosure Commissioning Team meetings.
 2. Provide on-site technician and equipment to complete Mock-up and field Functional Performance Testing.
 3. Prepare and submit reports to the Commissioner at the conclusion of all testing.
 4. Perform retesting and prepare corresponding reports.

3.3 BUILDING ENCLOSURE COMMISSIONING TEAM (BECx) MEETINGS

- A. BECx meetings will be held periodically, as determined by the Commissioner and recommended by BECA.
- B. Discussions held in BECx meetings must include, but not be limited to: system/materials, mock-up/field, progress, scheduling, testing, documentation, deficiencies, and problem resolution.
- C. The Contractor must attend BECx meetings, and must ensure the attendance of required subcontractors, as requested.

3.4 REPORTING

- A. BECA will provide status reports to the Commissioner. The Commissioner will provide such status reports to the Contractor, CxA, Design Consultant, and other entities as needed.
- B. BECA will submit non-compliance and deficiency reports to Commissioner. The Commissioner will provide such reports to the Contractor, CxA, Design Consultant, and other entities as needed.
- C. BECA will provide a final summary report to Commissioner and CxA.

3.5 MOCK-UP AND FINAL CONSTRUCTION

- A. Prior to Functional Performance Testing or concealment of functional performance layers within the building enclosure, the Contractor must verify that all assemblies are complete, including deficiency long items, and all Contract requirements are met.

3.6 FUNCTIONAL PERFORMANCE TESTING

- A. Objectives and Scope
 1. The objective of Functional Performance Testing is to demonstrate that the building enclosure is performing according to documented design intent and Contract Documents. Functional Performance Testing ensures and documents that the building enclosure systems are fully operational. Additionally, during Functional Performance Testing, areas of deficient performance are identified and corrected, improving building enclosure system performance.
- B. Development of Test Procedures



1. The purpose of a specific test is to verify and document compliance of the installed enclosure systems with the OPR. Building Enclosure Functional Performance Test Protocols are provided in other sections of the Project Specifications for specific requirements regarding BECx.
- C. Coordination and Scheduling
1. Contractor must provide sufficient notice to BECA, through the Commissioner, regarding completion schedule for materials and systems. Testing to be performed in conjunction with site visits. Contractor must schedule Functional Performance Tests with Commissioning Team. BECA must witness and document functional testing of equipment and systems. BETA, as retained by the Contractor, must execute tests under direction of BECA.
 2. Successful completion of Mock-up functional performance testing must occur prior to full production installation of building enclosure materials and systems.

3.7 DOCUMENTATION, NON-CONFORMANCE, AND APPROVAL OF TESTS

A. Documentation

1. BECA must witness and document results of FPT.

B. Non-Conformance

1. BECA must record results of functional testing. Deficiency or non-conformance issues must be noted and reported to the Commissioner. The Commissioner must provide such non-conformance reports to the CxA, Design Consultant, Contractor, and other entities, as needed.
2. Corrections of minor deficiencies identified may be made during tests at the discretion of the Commissioner and as recommended by the BECA. In such cases, deficiency and resolution must be documented.
3. Every effort must be made to expedite testing and minimize unnecessary delays, while not compromising integrity of tests.
4. Deficiencies are handled in the following manner:
 - a) BECA documents deficiencies and notes Contractor's response and intentions. A finding of deficiency will not end the testing process.
 - b) BECA submits deficiency report to the Commissioner. The Commissioner will provide such deficiency report to the CxA, Contractor, Design Consultant, and other entities as required.
 - c) Contractor corrects deficiency and certifies that material or assembly is ready to be retested.
 - d) Contractor informs Commissioner of retesting schedule for coordination with the BECA.
 - e) Contractor reschedules test with the Commissioner and BETA at no additional cost to the City of New York.
 - f) If a test must be witnessed more than twice by the BECA due to repeated failure to perform as per the design documents, the Contractor must be responsible for the BECA's fee for witnessing repeated tests beyond the second incidence. Such fee will be negotiated between the BECA and the Commissioner.

C. Testing

1. Costs for all testing and retesting required for the Project will be the responsibility of the Contractor. The Contractor is to provide access to the test specimens to the Commissioning Team, through the Commissioner.



3.8 COMMISSIONING DOCUMENTATION

A. Final Report Details

1. Final BECx Report must include an executive summary, list of participants and roles, brief building description, overview of Commissioning and testing scope, and general description of testing and verification methods. Report must contain evaluation regarding:
 - a) Conformance to Specifications and design intent.
 - b) Material/system installation.
 - c) Functional performance.
2. All outstanding non-compliance items must be specifically listed.
3. Recommendations for improvement to system or operations, future actions, etc. must also be listed.

END OF SECTION 01 91 15



**Department of
Design and
Construction**

Division 01 – DDC STANDARD GENERAL CONDITIONS
SINGLE CONTRACT PROJECTS
Issue Date: January 1, 2022

(No Text This Page)

**THE CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF PUBLIC BUILDINGS**

30-30 THOMSON AVENUE
TELEPHONE (718) 391-1000

LONG ISLAND CITY, NEW YORK 11101-3045
WEBSITE www.nyc.gov/buildnyc



**Department of
Design and
Construction**

Contract for Furnishing all Labor and Material Necessary

Contractor

Dated _____, 20____

Approved as to Form
Certified as to Legal Authority

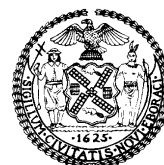
Acting Corporation Counsel

Dated _____, 20____

Entered in the Comptroller's Office

First Assistant Bookkeeper

Dated _____, 20____



FMS ID: **PV040ELEV**



**Department of
Design and
Construction**

**THE CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF PUBLIC BUILDINGS**

30-30 THOMSON AVENUE LONG ISLAND CITY, NEW YORK 11101-3045
TELEPHONE (718) 391-1000 WEBSITE www.nyc.gov/buildnyc

Contract for Furnishing all Labor and Material Necessary and Required for:

CONTRACT NO. 1 GENERAL CONSTRUCTION

Flushing Town Hall - Elevator Modernization

LOCATION: 137-35 Northern Boulevard
BOROUGH: Queens, NY 11355
CITY OF NEW YORK

Contractor

Dated _____, 20____

Approved as to Form
Certified as to Legal Authority

Acting Corporation Counsel

Dated _____, 20____

Entered in the Comptroller's Office

First Assistant Bookkeeper

Dated _____, 20____





**Department of
Design and
Construction**

PROJECT ID:

PV040ELEV

**THE CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF PUBLIC BUILDINGS**

30-30 THOMSON AVENUE
LONG ISLAND CITY, NEW YORK 11101-3045
TELEPHONE (718) 391-1000
WEBSITE www.nyc.gov/buildnyc

VOLUME 3 OF 3

**ADDENDUM TO THE GENERAL
CONDITIONS**

SPECIFICATIONS

FOR FURNISHING ALL LABOR AND MATERIALS
NECESSARY AND REQUIRED FOR:

**Flushing Town Hall - Elevator
Modernization**

**LOCATION:
BOROUGH:
CITY OF NEW YORK**

**137-35 Northern Boulevard
Queens, NY 11355**

CONTRACT NO. 1

GENERAL CONSTRUCTION

FOR: DCLA

BY: IP Group

Date: March 18, 2022



ADDENDA CONTROL SHEET

TITLE: Flushing Town Hall Elevator Modernization

**GENERAL
COUNSEL**

[illegible]

THE CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF PUBLIC BUILDINGS

May 19, 2022

ADDENDUM No. # 1

FOR FURNISHING ALL LABOR AND MATERIAL NECESSARY AND REQUIRED FOR:

85022B0079 - PV040ELEV

Flushing Town Hall Elevator Modernization

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 at (718) 391-1041 or by email at CSB_projectinquiries@ddc.nyc.gov.

Richard Jones, PE CWI
Executive Director, Specifications

DDC PROJECT #: PV040ELEV

PROJECT NAME: Flushing Town Hall Elevator Modernization

ATTACHMENT A - BIDDERS QUESTIONS AND DDC RESPONSES

No.	Bidders Questions	DDC Responses
1	Please confirm if this Contract is subject to Provisions of PLA.	No, this Contract is not subject to the PLA. Refer to updated Volume 2, included with this Addendum.
2	The Bid Breakdown excel file is locked and does not allow us to fill in the bidder name. Do we have to use this sheet, only without the bidder's name?	Bid Breakdown form has been unlocked to allow for entering the name of bidder. See updated file in the PASSPort Questionnaire.

DDC PROJECT #: PV040ELEV

PROJECT NAME: Flushing Town Hall Elevator Modernization

ATTACHMENT B – REVISIONS TO THE DOCUMENTS

Volume 2: references to Project Labor Agreement (PLA) have been removed

DDC PROJECT #: PV040ELEV

PROJECT NAME: Flushing Town Hall Elevator Modernization

ATTACHMENT C – REVISIONS TO PASSPORT FORMS

This Addendum initiates Round 2 of the procurement.

Please note that numbering of addenda is independent of rounds.

Questionnaire Changes:

- Bid Breakdown has been unlocked to allow for entering the name of bidder.

Item Grid Changes:

None

ADDENDA CONTROL SHEET

TITLE: Flushing Town Hall Elevator Modernization

**GENERAL
COUNSEL**

[illegible]

THE CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF PUBLIC BUILDINGS

May 23, 2022

ADDENDUM No. # 2

FOR FURNISHING ALL LABOR AND MATERIAL NECESSARY AND REQUIRED FOR:

85022B0079 - PV040ELEV

Flushing Town Hall Elevator Modernization

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.

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If additional information is required, please contact the Department of Design and Construction, Contract Section at (718) 391-1041 or by email at CSB_projectinquiries@ddc.nyc.gov.

Richard Jones, PE CWI
Executive Director, Specifications

DDC PROJECT #: PV040ELEV

PROJECT NAME: Flushing Town Hall Elevator Modernization

ATTACHMENT A - BIDDERS QUESTIONS AND DDC RESPONSES

No.	Bidders Questions	DDC Responses
1	Where can we locate the bid forms? Volume 1 does not contain any bid forms – just project references.	Please refer to the questionnaire in PASSPort RFx, when logged in as a vendor.
2	There are conflicting directions for bid submittal documents. Notice to bidders - New bid submission procedures due to Covid 19 states that the bid documents are to be delivered to DDC office bldg. at 3030 Thompson Avenue but the Bid book volume 1 page 3 states "Bidders are advised that paper bid submissions will be deemed non-responsive, bidders must submit their bids electronically in passport, provide bid security and deliver (by hand?) to DDC the one paged signed bid submission for the bid to be considered responsive. Which is it – hand delivered bid submission or electronic or both? Again - we cannot locate the actual bid forms anywhere in the documents provided on Passport. The 2 submission statements found in the bid instructions noted above contradict each other. Please clarify this and provide the bid forms.	Both. Please refer to the questionnaire in the PASSPort RFx, when logged in as a vendor. For assistance with PASSPort, please contact MOCS: https://mocssupport.atlassian.net/servicedesk/customer/portal/8
3	Documents state there will be an optional pre bid site visit on the 19 th at 10am. Who will be conducting the site visit? Do we need to contact them to advise of attendance? What are the COVID protocols for the site visit?	Site visit was held on May 19 th , 2022, at 10:00am. No additional site visits will be scheduled.

4	We have done several DDC projects where the bid documents and Addendum to the General Conditions require a DDC field trailer to be provided such as these project documents note. However, due to lack of space, the trailers were negated on the other projects. Will the DDC field trailer requirement be used for this project or not?	DDC field office will be required for this project. Please refer to the Volume 3 of 3, Addendum to the General Conditions, page 4 of 20.
5	Re: DDC General Conditions Section #015411-6 Article 3.3. The Addendum to the General Conditions says this applies. Is there another elevator in the building that will be the responsibility of the contractor?	There is one elevator in the building, and the existing elevator is currently operational. Please refer to the Volume 3 of 3, Addendum to the General Conditions, Page 4 of 20. DDC General Conditions Section 015411, Article 3.3 (A-E) 'Temporary use, Operation and Maintenance of Elevators During Construction for Existing Buildings' is applicable for this project.

DDC PROJECT #: PV040ELEV

PROJECT NAME: Flushing Town Hall Elevator Modernization

ATTACHMENT B – REVISIONS TO DOCUMENTS

NOT USED

DDC PROJECT #: PV040ELEV

PROJECT NAME: Flushing Town Hall Elevator Modernization

ATTACHMENT C – REVISIONS TO PASSPORT FORMS

This Addendum is included within Round 2 of the procurement.

Please note that numbering of addenda is independent of rounds.

Questionnaire Changes:

None

Item Grid Changes:

None

ADDENDA CONTROL SHEET

TITLE: Flushing Town Hall Elevator Modernization

**GENERAL
COUNSEL**

[illegible]

THE CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF PUBLIC BUILDINGS

May 31, 2022

ADDENDUM No. # 3

FOR FURNISHING ALL LABOR AND MATERIAL NECESSARY AND REQUIRED FOR:

85022B0079 - PV040ELEV

Flushing Town Hall Elevator Modernization

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 below scheduled for June 2, 2022, at 2:30 pm is rescheduled to June 9, 2022 at 2:30 pm.**
Contract #1 – General Construction Work
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 at (718) 391-1041 or by email at CSB_projectinquiries@ddc.nyc.gov.

Richard Jones, PE CWI
Executive Director, Specifications

DDC PROJECT #: PV040ELEV

PROJECT NAME: Flushing Town Hall Elevator Modernization

ATTACHMENT A - BIDDERS QUESTIONS AND DDC RESPONSES

NOT USED

DDC PROJECT #: PV040ELEV

PROJECT NAME: Flushing Town Hall Elevator Modernization

ATTACHMENT B – REVISIONS TO DOCUMENTS

NOT USED

DDC PROJECT #: PV040ELEV

PROJECT NAME: Flushing Town Hall Elevator Modernization

ATTACHMENT C – REVISIONS TO PASSPORT FORMS

This Addendum is included within Round 2 of the procurement.

Please note that numbering of addenda is independent of rounds.

Bid Opening Date Changes:

The Bid Opening scheduled for June 2, 2022 at 2:30pm is rescheduled for June 9, 2022 at 2:30pm.

Questionnaire Changes:

None

Item Grid Changes:

None

ADDENDA CONTROL SHEET

PROJECT No. : **PV040ELEV**

TITLE: Flushing Town Hall Elevator Modernization

ADDENDA ISSUED

DATE

**GENERAL
COUNSEL**

[illegible]

THE CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF PUBLIC BUILDINGS

June 1, 2022

ADDENDUM No. # 4

FOR FURNISHING ALL LABOR AND MATERIAL NECESSARY AND REQUIRED FOR:

85022B0079 - PV040ELEV

Flushing Town Hall Elevator Modernization

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 at (718) 391-1041 or by email at CSB_projectinquiries@ddc.nyc.gov.

Richard Jones, PE CWI
Executive Director, Specifications

DDC PROJECT #: PV040ELEV

PROJECT NAME: Flushing Town Hall Elevator Modernization

ATTACHMENT A - BIDDERS QUESTIONS AND DDC RESPONSES

No.	Bidders Questions	DDC Responses
1	Drawing FA-001.00 - Note 24 indicates, "All Fire Alarm Devices and Programming shall be purchased from the Building Fire Alarm Vendor". Please provide the contact information of existing building fire alarm vendor.	The existing Fire Alarm vendor is MARLARM SECURITY GROUP, contact number is (800) 797-9001.
2	Please issue list of bidders those attended pre-bid conference.	Pre-bid conference sign-in sheet is included with this Addendum.
3	Please inform locations of existing electrical pad.	Location as noted on drawing E-100.00 is included with this Addendum. Connect to existing Electrical Panel PP-Mer Panel.
4	Please inform if any monthly maintenance of elevator is required.	Contractor is responsible for maintenance of elevator up until project substantial completion.
5	Quarry tile floor is indicated in the bid breakdown; however, per the legend on drawing A101, rubber floor tile is to be installed. Please clarify which one is correct.	Contractor to install rubber flooring tiles. Bid Breakdown has been updated in the PASSPort Questionnaire.
6	If you are requiring a full hard copy original bid package delivered to DDC main office in LIC before Bid Due Date deadline, then why does it also have to be submitted online in PASSPORT. Why both methods?	Only the Bid Submission Form and, if applicable, certified check, must be delivered to DDC. Refer to "DDC PASSPort Bid Information" in the PASSPort RFx for clarification.
7	Please provide a copy of planholder list.	Planholder list is included with this Addendum.
8	Please advise if storage areas inside building will be made available for our tools and equipment, and approximate size and location of storage areas.	There is limited space available in the facility. A small area can be made available for small tools and/or Gang box. This space will not be a locked/secured space.
9	What is size of existing sump pump pit?	The existing elevator pit is approximately 2'-0" X 2'-0" X 24" high. Contractor to verify in field.
10	Please provide name and contact information for building HVAC BMS Controls System.	No BMS control system is required.

DDC PROJECT #: PV040ELEV

PROJECT NAME: Flushing Town Hall Elevator Modernization

ATTACHMENT B – REVISIONS TO THE DOCUMENTS

Revisions to the Drawings:

E-100.00 updated to include location of existing panels.

Pre-Bid Conference Sign In Sheet is included with this Addendum.

Planholders List is included with this Addendum.

DDC PROJECT #: PV040ELEV

PROJECT NAME: Flushing Town Hall Elevator Modernization

ATTACHMENT C – REVISIONS TO PASSPORT FORMS

This Addendum initiates Round 3 of the procurement.

Please note that numbering of addenda is independent of rounds.

Questionnaire Changes:

Bid Breakdown Section 142100: “Quarry Tile” has been replaced with “Rubber Floor Tile.”

Item Grid Changes:

None

ADDENDA CONTROL SHEET

TITLE: Flushing Town Hall Elevator Modernization

**GENERAL
COUNSEL**

[illegible]

THE CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF PUBLIC BUILDINGS

June 6, 2022

ADDENDUM No. # 5

FOR FURNISHING ALL LABOR AND MATERIAL NECESSARY AND REQUIRED FOR:

85022B0079 - PV040ELEV

Flushing Town Hall Elevator Modernization

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 at (718) 391-1041 or by email at CSB_projectinquiries@ddc.nyc.gov.

Richard Jones, PE CWI
Executive Director, Specifications

DDC PROJECT #: PV040ELEV

PROJECT NAME: Flushing Town Hall Elevator Modernization

ATTACHMENT A - BIDDERS QUESTIONS AND DDC RESPONSES

No.	Bidders Questions	DDC Responses
1	It seems the Cell B7 in Excel Sheet "PV040ELEV_Bid_Breakdown_Locked.xls" is locked and does not allow us to fill in the Bidder's Name. Do we have to use this sheet only, without the Bidder's Name?	Bid Breakdown form has been unlocked to allow for entering the name of bidder. See updated file in the PASSPort Questionnaire.

DDC PROJECT #: PV040ELEV

PROJECT NAME: Flushing Town Hall Elevator Modernization

ATTACHMENT B – REVISIONS TO THE DOCUMENTS

NOT USED

DDC PROJECT #: PV040ELEV

PROJECT NAME: Flushing Town Hall Elevator Modernization

ATTACHMENT C – REVISIONS TO PASSPORT FORMS

This Addendum initiates Round 4 of the procurement.

Please note that numbering of addenda is independent of rounds.

Questionnaire Changes:

- Bid Breakdown has been unlocked to allow for entering the name of bidder.

Item Grid Changes:

None

ADDENDA CONTROL SHEET

TITLE: Flushing Town Hall Elevator Modernization

**GENERAL
COUNSEL**

[illegible]

THE CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF PUBLIC BUILDINGS

June 7, 2022

ADDENDUM No. # 6

FOR FURNISHING ALL LABOR AND MATERIAL NECESSARY AND REQUIRED FOR:

85022B0079 - PV040ELEV

Flushing Town Hall Elevator Modernization

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 at (718) 391-1041 or by email at CSB_projectinquiries@ddc.nyc.gov.

Richard Jones, PE CWI
Executive Director, Specifications

DDC PROJECT #: PV040ELEV

PROJECT NAME: Flushing Town Hall Elevator Modernization

ATTACHMENT A - BIDDERS QUESTIONS AND DDC RESPONSES

NOT USED

DDC PROJECT #: PV040ELEV

PROJECT NAME: Flushing Town Hall Elevator Modernization

ATTACHMENT B – REVISIONS TO THE DOCUMENTS

NOT USED

DDC PROJECT #: PV040ELEV

PROJECT NAME: Flushing Town Hall Elevator Modernization

ATTACHMENT C – REVISIONS TO PASSPORT FORMS

This Addendum initiates Round 5 of the procurement.

Please note that numbering of addenda is independent of rounds.

Bid Opening Link Changes:

The link to the Bid Opening has been revised to the following:

https://www.youtube.com/playlist?list=PLKYRN_jd7vvfhJ3NGqCkJ2n32mGvlcpVR

Questionnaire Changes:

None

Item Grid Changes:

None

ADDENDA CONTROL SHEET

TITLE: Flushing Town Hall Elevator Modernization

**GENERAL
COUNSEL**

[illegible]

THE CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF PUBLIC BUILDINGS

June 8, 2022

ADDENDUM No. # 7

FOR FURNISHING ALL LABOR AND MATERIAL NECESSARY AND REQUIRED FOR:

85022B0079 - PV040ELEV

Flushing Town Hall Elevator Modernization

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 below scheduled for June 9, 2022, at 2:30 pm is rescheduled to June 17, 2022 at 2:30 pm.**
Contract #1 – General Construction Work
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 at (718) 391-1041 or by email at CSB_projectinquiries@ddc.nyc.gov.

Richard Jones, PE CWI
Executive Director, Specifications

DDC PROJECT #: PV040ELEV

PROJECT NAME: Flushing Town Hall Elevator Modernization

ATTACHMENT A - BIDDERS QUESTIONS AND DDC RESPONSES

NOT USED

DDC PROJECT #: PV040ELEV

PROJECT NAME: Flushing Town Hall Elevator Modernization

ATTACHMENT B – REVISIONS TO THE DOCUMENTS

NOT USED

DDC PROJECT #: PV040ELEV

PROJECT NAME: Flushing Town Hall Elevator Modernization

ATTACHMENT C – REVISIONS TO PASSPORT FORMS

This Addendum is included within Round 5 of the procurement.

Please note that numbering of addenda is independent of rounds.

Bid Opening Date Changes:

The Bid Opening scheduled for June 9, 2022 at 2:30pm is rescheduled for June 17, 2022 at 2:30pm.

Questionnaire Changes:

None

Item Grid Changes:

None

CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF PUBLIC BUILDINGS

ADDENDA CONTROL SHEET

BID SUBMISSION DATE/ TIME: June 17, 2022; between 11:30am and 2:00pm
BID OPENING DATE/ TIME: June 17, 2022; 2:30pm

PROJECT No. : **PV040ELEV**

TITLE: **Flushing Town Hall Elevator Modernization**

ADDENDA ISSUED	NO. OF DWG	DATE	APPROVED BY:	
			ARCHITECTURE/ ENGINEERING	GENERAL COUNSEL
#1 Questions from Bidders and Responses to Questions; Revisions to Documents; Revisions to PASSPort Forms		5/19/2022		
#2 Questions from Bidders and Responses to Questions; Revisions to Documents; Revisions to PASSPort Forms		5/23/2022		
#3 Revised Bid Opening Date; Questions from Bidders and Responses to Questions; Revisions to Documents; Revisions to PASSPort Forms		5/31/2022		
#4 Questions from Bidders and Responses to Questions; Revisions to Documents; Revisions to PASSPort Forms		6/1/2022		
#5 Questions from Bidders and Responses to Questions; Revisions to Documents; Revisions to PASSPort Forms		6/6/2022		
#6 Questions from Bidders and Responses to Questions; Revisions to Documents; Revisions to PASSPort Forms		6/7/2022		
#7 Revised Bid Opening Date; Questions from Bidders and Responses to Questions; Revisions to Documents; Revisions to PASSPort Forms		6/8/2022		
#8 Questions from Bidders and Responses to Questions; Revisions to Documents; Revisions to PASSPort Forms		6/9/2022	<i>Sarah Zomick</i>	<i>hp</i> 6-9-22

THE CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF PUBLIC BUILDINGS

June 9, 2022

ADDENDUM No. # 8

FOR FURNISHING ALL LABOR AND MATERIAL NECESSARY AND REQUIRED FOR:

85022B0079 - PV040ELEV

Flushing Town Hall Elevator Modernization

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 at (718) 391-1041 or by email at CSB_projectinquiries@ddc.nyc.gov.

Richard Jones, PE CWI
Executive Director, Specifications

DDC PROJECT #: PV040ELEV

PROJECT NAME: Flushing Town Hall Elevator Modernization

ATTACHMENT A - BIDDERS QUESTIONS AND DDC RESPONSES

No.	Bidders Questions	DDC Responses
1	Per addendum #4, the existing fire alarm vendor was noted as Marlarm Security Group. We have been informed by Marlarm that they are not responsible for the fire alarm in the building. Please advise.	Fire Alarm inspection vendor is Marlarm Security Group, contact number is (800) 797-9001. Fire Alarm monitoring vendor is Rapid Response Monitoring Service (800) 932-3822.
2	Passport form GML-101 requires to "upload completed version in Sealed Subcontractor sub list sub tab of Subcontractors and joint ventures tab of the RFX." However, there is no such sub tab under Joint Venture. Please advise as to where this form is to be uploaded?	Please contact MOCS for assistance: https://mocssupport.atlassian.net/servicedesk/customer/portal/8

DDC PROJECT #: PV040ELEV

PROJECT NAME: Flushing Town Hall Elevator Modernization

ATTACHMENT B – REVISIONS TO THE DOCUMENTS

NOT USED

DDC PROJECT #: PV040ELEV

PROJECT NAME: Flushing Town Hall Elevator Modernization

ATTACHMENT C – REVISIONS TO PASSPORT FORMS

This Addendum is included within Round 5 of the procurement.

Please note that numbering of addenda is independent of rounds.

Questionnaire Changes:

None

Item Grid Changes:

None



**THE CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF PUBLIC BUILDINGS**

**ADDENDUM TO THE GENERAL CONDITIONS
FOR SINGLE CONTRACT PROJECTS**

**The General Conditions are hereby amended in accordance
with the terms and conditions set forth in this Addendum.**

I. PROJECT DESCRIPTION

FMS #: PV040ELEV
PROJECT NAME: Flushing Town Hall – Elevator Modernization

PROJECT DESCRIPTION: This project consists of the replacement of the elevator controller, replacement of walls, ceiling, and lights of the cabin interior, upgrade of the air condition system in the elevator room, installation of a pit sump pump, installation of new elevator hoist beam, revision and replacement of fire alarm initiating and notifying devices related with the elevator and associated general construction work.

PROJECT LOCATION: 137-35 Northern Boulevard, Flushing, NY 11354
BOROUGH: Queens
CITY OF NEW YORK
ZIP CODE: 11354
COMMUNITY BOARD #: Queens Community Board 7

LANDMARK STATUS:

DESIGNATED LANDMARK STRUCTURE OR SITE: YES

If this is a Designated Landmark Structure or Site, Section 01 3591, Historic Treatment Procedures applies to this project.

LANDMARK QUALITY STRUCTURE: NO

If this is a Landmark Quality Structure, Section 01 3591, Historic Treatment Procedures applies to this project.

II. LEED GREEN BUILDING REQUIREMENTS

Not Used

III. COMMISSIONING REQUIREMENTS

Not Used

IV. PROJECT MANAGEMENT

☒ DDC shall publicly bid and enter into all contracts for the Project. DDC shall manage the Project using its own personnel.

☐ DDC shall publicly bid and enter into all contracts for the Project. A Construction Management firm (the "CM") hired by DDC shall manage the Project. The Contractor is advised that the CM shall serve as the representative of the Commissioner at the site and shall, subject to review by the Commissioner, be responsible for the inspection, management, coordination and administration of the required construction work, as delineated in the article of the Standard Construction Contract entitled "The Resident Engineer".

V. CONTRACTS FOR THE PROJECT

The Project consists of a single contract, the Contract for General Construction Work. The Contractor for General Construction Work is responsible for the performance of all required work for the Project as set forth in the Contract Documents (General Conditions, Drawings and Specifications), including all responsibilities and obligations assigned to separate Contractors for the following subdivisions of the work: Plumbing Work, HVAC Work, and Electrical Work. All responsibilities and obligations in the Contract Documents assigned to separate Contractors for such subdivisions of the work are the responsibility of the Contractor for General Construction Work.

VI. SCHEDULES

The Contractor is advised that Schedules A through E are attached to, and incorporated as part of, this Addendum to the General Conditions. These schedules contain important information that is specific to this Project. The Contractor is advised to carefully review these schedules.

VII. APPLICABILITY OF SECTIONS/SUB-SECTIONS AND AMENDED SUB-SECTIONS

The Contractor is advised that various Sections/Sub-Sections in the General Conditions may not apply to this Project or may apply as amended. Such Sections/Sub-Sections advise the Contractor to "Refer to the Addendum for the applicability of this Section/Sub-Section." Such Sections/Sub-Sections are set forth below. A check mark indicates whether the Section/Sub-Section (1) applies to the Project, (2) does not apply to the Project, or (3) applies to the Project as amended. If no box is checked, the Section/Sub-Section, as set forth in the General Conditions, applies to the Project. Amended Sections/Sub-Sections, if any, are set forth following this list of Sections.

<u>Section</u>	<u>Sub-Section</u>	<u>Sub-Section</u>	<u>Applies</u>	<u>Does not Apply</u>	<u>Applies as Amended</u>
01 1000	1.4 (B)	Scope and Intent / LEED		X	
	1.4(C)	Scope and Intent / Commissioning		X	
01 3216.10		Project Schedules (Method A)	X		
01 3216.20		Project Schedules (Method B)		X	
01 3216.30		Project Schedules (Method C)		X	
	1.7 Q	Cost Loaded Schedule		X	
01 3233		Photographic Documentation	X		
01 3300	1.7 (A-D)	LEED Submittals		X	
01 3503		General Mechanical Requirements	X		
01 3506	3.2 (A-B)	Electrical Conduit System Including Boxes (Pull, Junction and Outlet)	X		
	3.3 (A-E)	Electrical Wiring Devices	X		
	3.4 (A-I)	Electrical Conductors and Terminations	X		
	3.5 (A-B)	Circuit Protective Devices	X		
	3.6 (A-J)	Distribution Centers		X	
	3.7 (A-I)	Motors	X		
	3.8 (A-I)	Motor Control Equipment	X		
01 3591		Historic Treatment Procedures	X		
01 5000	3.2 (A)	Temporary Water Facilities / Temporary Water		X	
	3.2 (B)	Temporary Water Facilities / Temporary Water – Work in Existing Facilities		X	
	3.3 (B)	Temporary Sanitary Facilities / Self-Contained Toilet Units		X	
	3.3 (C)	Temporary Sanitary Facilities / Existing Toilets		X	
	3.4 (B) 1	Temporary Power, Lighting, and Site Lighting / Connection to Utility Lines		X	
	3.4 (B) 2	Temporary Power, Lighting, and Site Lighting / Connection to Existing Electrical Power Service	X		
	3.4 (B) 3	Temporary Power, Lighting, and Site Lighting / Electrical Generator Power Service		X	
	3.4 (D)	Temporary Power, Lighting, and Site Lighting / Temporary Lighting		X	
	3.4 (E)	Temporary Power, Lighting, and Site Lighting / Site Security Lighting (for New Construction Only)		X	
	3.5 (A-J)	Temporary Heat		X	
	3.8 (A)	DDC Field Office / Office Space in Existing Building		X	

<u>Section</u>	<u>Sub-Section</u>	<u>Sub-Section</u>	<u>Applies</u>	<u>Does not Apply</u>	<u>Applies as Amended</u>
01 5000	3.8 (B)	DDC Field Office / DDC Field Office Trailer		X	
	3.8 (B-3a)	DDC Field Office / DDC Managed Field Office Trailer	X		
	3.8 (B-3b)	DDC Field Office / CM Managed Field Office Trailer		X	
	3.8 (D)	DDC Field Office / Additional Equipment for the DDC Field Office		X	
	3.13(A-D)	Work Fence Enclosure		X	
	3.17(B)	Project Rendering		X	
	3.18 (A-C)	Security Guards / Fire Guards on Site		X	
01 5411	3.1 (A-J)	Temporary Use, Operation and Maintenance of Elevators During Construction for New Buildings Up To and Including 15 Stories		X	
	3.2 (A-M)	Temporary Use, Operation and Maintenance of Elevators During Construction for New Buildings Over 15 Stories		X	
	3.3 (A-E)	Temporary Use, Operation and Maintenance of Elevators During Construction for Existing Buildings	X		
01 7300	3.3 (A-I)	Surveys		X	
	3.4 (A-B)	Borings		X	
	3.12 (A-D)	Sleeves and Hangers	X		
	3.13 (A)	Sleeve and Penetration Drawings		X	
	3.15 (A)	Location of Partitions		X	
01 7419	1.5 (C)	Waste Management Performance Requirements / LEED Certification		X	
01 7900		Demonstration and Owner's Pre-Acceptance Orientation		X	
01 8113.03		Sustainable Design Requirements for LEED v3 Buildings		X	
01 8113.04		Sustainable Design Requirements for LEED v4 Buildings		X	
01 81 13.10		Environmentally Preferable Purchasing (EPP) Compliance		X	
01 8113.13		VOC Limits for Adhesives, Sealants, Paints and Coatings for LEED v3 Buildings		X	
01 8119		Indoor Air Quality Requirements for LEED Buildings		X	
01 9113		General Commissioning Requirements for MEP Systems		X	
01 9115		General Commissioning Requirements for Building Enclosure		X	

VIII. SPECIAL EXPERIENCE REQUIREMENTS FOR THE PROJECT

Refer to the PASSPort Questionnaire for Special Experience Requirements.

IX. REVISIONS: SPECIFICATIONS AND CONTRACT DRAWINGS

The Specifications and the Contract Drawings for the Project are revised in accordance with the provisions set forth below.

- (1) Owner: Wherever the term "Owner" is used in the Specifications and/or the Contract Drawings, such term shall mean the City of New York.
- (2) Other Entities: In the event any entity other than the City of New York is referred to or named as the "Owner" in the Specifications and/or the Contract Drawings, the name of such other entity is deemed deleted and replaced with the "City of New York".
- (3) Architect / Engineer: Wherever the words "Architect", "Engineer", "Architect / Engineer" or "Architect and/or Engineer" are used in the Specifications and/or the Contract Drawings, such words are deemed deleted and replaced with the word "Commissioner".
- (4) Products / Manufacturers: Wherever the Specifications and/or the Contract Drawings require the Contractor to provide a particular product (i.e., material and/or equipment) from a designated manufacturer and/or vendor, the term "or approved equal" is deemed inserted, even if only one product and/or manufacturer is specified, except as otherwise provided below.
 - (a) Proprietary Items: If the Documents section in PASSPort contains a Notice which identifies a particular product from a designated manufacturer as a "Sole Source Product, the Contractor shall be required to provide such specified product. In such case, no substitution or "approved equal" will be permitted.
- (5) Special Experience Requirements: Special Experience Requirements for the Project, if any, are set forth in the PASSPort Questionnaire. Special Experience Requirements may apply to Contractors, subcontractors, installers, fabricators, applicators, erectors, specialists, manufacturers and/or suppliers. Refer to DDC General Conditions Section 014000 Article 1.7.C for applicable Special Experience qualification levels. If the Specifications and/or the Contract Drawings contain any Special Experience Requirement that is not set forth in the PASSPort Questionnaire, such Special Experience Requirement is deemed deleted, except as otherwise provided below.
 - (a) Any Special Experience Requirement that provides that the entity performing the work or supplying the material must have more than three (3) years of experience, is revised to provide that the entity performing the work or supplying the material must have three (3) years of experience as noted in DDC General Conditions Section 014000 Quality Requirements, Article 1.7.B., except as described in paragraph (b) below.
 - (b) Any Special Experience Requirement that pertains to the abatement of hazardous materials must not be subject to the deletion and/or revision set forth above. Such Special Experience Requirement will remain in full force and effect.
 - (c) Any Special Experience Requirement that provides that the individual workers performing the work must be licensed, authorized, certified, approved by or acceptable to the manufacturer, is deemed deleted and replaced with the requirement that such individual workers must be properly trained for the specified work.
- (6) Alternate Bids: If the agency is requesting the submission of Alternate Bids, a Notice regarding such Alternate Bids is set forth in the Documents section in PASSPort. In the event of any conflict or inconsistency between (1) the Notice regarding Alternate Bids set forth in the Documents section in PASSPort and (2) a provision in the Specifications and/or the Contract Drawings regarding Alternate Bids, the Notice set forth in the Documents section in shall prevail. If the agency is not requesting the submission of Alternate Bids, as indicated by the absence of a Notice in the Documents section in PASSPort, and the Specifications and/or the Contract Drawings contain any provision regarding Alternate Bids, such provision is deemed deleted.
- (7) Contractor Retained Engineer: If the Specifications and/or the Contract Drawings require the Contractor to retain an Engineer to provide engineering services for the Project, the following sentence is deemed inserted: "Such Engineer must be a Professional Engineer, licensed in the State of New York."
- (8) LEED Related Provisions: If the Specifications and/or the Contract Drawings require the Contractor to purchase FSC certified wood, rapidly renewable materials, or materials within 500 miles (LEED v3) or 100 miles (LEED

v4), such provisions are deemed deleted and replaced with the requirement that if the Contractor has purchased FSC certified wood, rapidly renewable materials, or materials within 500 miles (LEED v3) or 100 miles (LEED v4), the Contractor shall submit such forms or documentation as may be required by the City in order for the USGBC to certify that the Project qualifies for the related LEED credit(s).

- (9) Guarantees: Requirements for Guarantees and Maintenance are set forth in Schedule B, which is included in the Addendum to the General Conditions. In the event of any conflict or inconsistency between (1) a guarantee and/or maintenance requirement set forth in the Specifications and/or the Contract Drawings and (2) a guarantee and/or maintenance requirement set forth in Schedule B, the guarantee and/or maintenance requirement set forth in Schedule B shall prevail.
- (10) Warranties: Requirements for Warranties are set forth in Schedule B, which is included in the Addendum to the General Conditions.
- (a) The term “manufacturer’s warranty” as described in this article encompasses the following terms as indicated in the Specifications: “Manufacturer’s Warranty”, “Manufacturer’s Special Warranty”, “Special Warranty”, “Special Finish Warranty”, “Manufacturer’s Special Warranty for a (product, assembly).”
 - (b) In the event of any conflict or inconsistency between (1) a warranty requirement set forth in the Specifications and/or the Contract Drawings and (2) a warranty requirement set forth in Schedule B, the warranty requirement set forth in Schedule B shall prevail.
 - (c) In the event a warranty requirement set forth in the Specifications and/or the Contract Drawings is omitted from Schedule B, such omission from Schedule B shall have no effect and the Contractor’s obligation to provide the manufacturer’s warranty, as set forth in the Specifications and/or the Contract Drawings, shall remain in full force and effect.
 - (d) In the event a warranty requirement for a particular item of material or equipment is omitted from Schedule B, as well as from the Specifications or the Contract Drawings, and the manufacturer of such item actually provides a warranty, the Contractor shall be obligated to obtain and deliver to the Commissioner the highest level of warranty actually provided by that manufacturer.
- (11) Exculpatory Provisions: In the event the Specifications and/or the Contract Drawings contain any provision whereby the consultant and/or any of its officers, employees or agents, including subconsultants, is absolved of responsibility for any act or omission, such provision is deemed deleted.
- (12) Insurance: Provisions regarding insurance coverage the Contractor is required to provide are set forth in Article 22 of the City of New York Standard Construction Contract and Schedule A, which is included in the Addendum to the General Conditions. In the event the Specifications and/or the Contract Drawings contain any provision regarding insurance requirements, such provision is deemed deleted.
- (13) Indemnification: Provisions regarding indemnification are set forth in Articles 7, 12, 22 and 57 of the City of New York Standard Construction Contract. In the event the Specifications and/or the Contract Drawings contain any provision regarding indemnification, such provision is deemed deleted.
- (14) Dispute Resolution: Provisions regarding dispute resolution are set forth in Article 27 of the City of New York Standard Construction Contract. In the event the Specifications and/or the Contract Drawings contain any provision regarding dispute resolution, such provision is deemed deleted.
- (15) Payment to Other Entities: In the event the Specifications and/or the Contract Drawings contain any provision which requires the Contractor to make payments to an entity other than a subcontractor and/or supplier providing services and/or material for the project, such provision is deemed deleted.
- (16) General Conditions: In the event of any conflict or inconsistency between (1) the Specifications and/or the Contract Drawings and (2) the General Conditions, the General Conditions shall prevail.
- (17) Standard Construction Contract: In the event of any conflict or inconsistency between (1) the Specifications and/or the Contract Drawings and (2) the City of New York Standard Construction Contract, the City of New York Standard Construction Contract shall prevail.

SCHEDULE A (FOR PUBLICLY BID PROJECTS)
PART I - Contract Requirements

Various Articles of the Contract refer to requirements which are set forth in Schedule A of the General Conditions. The Schedule set forth below specifies the following: (1) the referenced Articles of the Contract, and (2) the specific requirements applicable to the contract.

REFERENCE	ITEM	REQUIREMENTS	CONTRACT #1
Information For Bidders	Bid Security	The Contractor must 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	Performance and Payment Bonds		For Contracts in the amount of \$1,000,000.00 or more, Performance and Payment Bonds must each be in amount equal to 100% of the Contract Price.
Information For Bidders	Department of Design and Construction Safety Requirements	The Contractor must provide the safety personnel as indicated to the right	<input checked="" type="checkbox"/> Project Safety Representative <input type="checkbox"/> Dedicated, full-time Project Safety Representative
Article 14 Contract	Time of Substantial Completion	Consecutive Calendar Days	540 ccd
Article 15 Contract	Liquidated Damages	For each consecutive calendar day over completion time	\$200
Article 17 Contract	Sub-Contracts	Not to exceed Percent of Contract Price	60%
Article 21 Contract	Retainage	Percent of Voucher	If 100% bonds are required 5% If 100% bonds are not required, and Contract Price is \$1,000,000 or less 5% If 100% bonds are not required, and Contract Price is more than \$1,000,000 10%
Article 24 Contract	Deposit Guarantee	Percent of Contract Price	1%
Article 24 Contract	Period of Guarantee		See Schedule B of the Addendum to the General Conditions
Article 75 Contract	Compensation to be Paid to Contractor		Amount for which the Contract was Awarded: _____ Dollars (\$ _____)
Article 79 Contract	MWBE Program		See M/WBE Utilization Plan in the PASSPort Procurement M/WBE Considerations Section.

SCHEDULE A (FOR PUBLICLY BID PROJECTS)

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 the ☐ 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
<div>■ Commercial General Liability Art. 22.1.1</div>	<p>This Contract requires Commercial General Liability Insurance (CGL) that is at least as broad as ISO Form CG 00 01 (see Section 22.1.1 of the New York City Standard Construction Contract).</p> <p>The minimum limits shall be <u>\$1,000,000.00</u> per occurrence and <u>\$2,000,000.00</u> per project aggregate applicable to this Contract unless the Work requires a permit from the Department of Buildings and greater limits of Commercial General Liability Insurances are required pursuant to 1 RCNY section 101-08.</p> <p>Additional Insureds:</p> <ol style="list-style-type: none"> 1. City of New York, including its officials and employees, with coverage at least as broad as ISO Forms CG 20 10 and CG 20 37, and 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).

SCHEDULE A (FOR PUBLICLY BID PROJECTS)

Relating to Article 22 - Insurance

PART II. Types of Insurance, Minimum Limits and Special Conditions

Insurance indicated by a blackened box (■) or by (X) in the ☐ 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
<div> <div>■ Workers' Compensation</div> <div>Art. 22.1.2</div> </div> <div> <div>■ Disability Benefits Insurance</div> <div>Art. 22.1.2</div> </div> <div> <div>■ Employers' Liability</div> <div>Art. 22.1.2</div> </div> <div> <div><input type="checkbox"/> Jones Act</div> <div>Art. 22.1.3</div> </div> <div> <div><input type="checkbox"/> U.S. Longshoremen's and Harbor Workers Compensation Act</div> <div>Art. 22.1.3</div> </div>	<p>Workers' Compensation, Employers' Liability, and Disability Benefits Insurance: Statutory per New York State law without regard to jurisdiction.</p> <p>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 (3) 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.</p> <p>Jones Act and U.S. Longshoremen's and Harbor Workers' Compensation Act: Statutory per U.S. law.</p>
<div> <div>■ Builders' Risk</div> <div>Art. 22.1.4</div> </div>	<p>100 % of total value of Work</p> <p>Contractor the Named Insured; the City both an Additional Insured and one of the loss payees as its interests may appear.</p> <p>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.</p> <p>Note: Builders Risk Insurance may terminate upon Substantial Completion of the Work in its entirety.</p>
<div> <div>■ Commercial Auto Liability</div> <div>Art. 22.1.5</div> </div>	<p>\$1,000,000.00 per accident combined single limit</p> <p>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</p>

SCHEDULE A (FOR PUBLICLY BID PROJECTS)

Relating to Article 22 - Insurance

PART II. Types of Insurance, Minimum Limits and Special Conditions

Insurance indicated by a blackened box (■) or by (X) in the ☐ 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
<input type="checkbox"/> Contractor's Pollution Liability Art. 22.1.6	<p>\$_____ per occurrence</p> <p>\$_____ aggregate</p> <p>Additional Insureds: 1. City of New York, including its officials and employees, and 2. _____ 3. _____</p>
<input type="checkbox"/> Marine Protection and Indemnity Art. 22.1.7(a)	<p>\$_____ per occurrence</p> <p>\$_____ aggregate</p> <p>Additional Insureds: 1. City of New York, including its officials and employees, and 2. _____ 3. _____</p>
<input type="checkbox"/> Hull and Machinery Insurance Art. 22.1.7(b)	<p>\$_____ per occurrence</p> <p>\$_____ aggregate</p> <p>Additional Insureds: 1. City of New York, including its officials and employees, and 2. _____ 3. _____</p>
<input type="checkbox"/> Marine Pollution Liability Art. 22.1.7(c)	<p>\$_____ each occurrence</p> <p>Additional Insureds: 1. City of New York, including its officials and employees, and 2. _____ 3. _____</p>
<p>[OTHER] Art. 22.1.8</p> <p><input type="checkbox"/> Ship Repairers Legal Liability</p>	<p>\$_____ each occurrence</p>

SCHEDULE A (FOR PUBLICLY BID PROJECTS)

Relating to Article 22 - Insurance

PART II. Types of Insurance, Minimum Limits and Special Conditions (Continued)

Insurance indicated by a blackened box (■) or by (X) in the ☐ 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
<p>[OTHER] Art. 22.1.8</p> <p><input type="checkbox"/> Collision Liability/Towers Liability</p>	<p>\$_____ per occurrence</p> <p>\$_____ aggregate</p> <p>Additional Insureds: 1. City of New York, including its officials and employees, and 2. _____ 3. _____</p>
<p>[OTHER] Art. 22.1.8</p> <p><input type="checkbox"/> Railroad Protective Liability _____</p>	<p>\$_____ per occurrence</p> <p>\$_____ aggregate</p> <p>Additional Insureds: 1. City of New York, including its officials and employees, and 2. _____ 3. _____</p>
<p>[OTHER] Art. 22.1.8</p> <p><input type="checkbox"/> Asbestos Liability _____</p>	<p>Only required of the Contractor or Subcontractor performing any required asbestos removal.</p> <p>\$1,000,000 each occurrence, \$2,000,000 aggregate (Combined Single Limit); only required of the Contractor or Subcontractor performing any required asbestos removal.</p> <p>Additional Insureds: 1. City of New York, including its officials and employees, and 2. _____ 3. _____</p>

SCHEDULE A (FOR PUBLICLY BID PROJECTS)

Relating to Article 22 - Insurance

PART II. Types of Insurance, Minimum Limits and Special Conditions (Continued)

Insurance indicated by a blackened box (■) or by (X) in the ☐ to left will be required under this contract.

<p>[OTHER] Art. 22.1.8</p> <p><input type="checkbox"/> Boiler Insurance _____</p>	<p>\$200,000</p>
<p>[OTHER] Art. 22.1.8</p> <p>■ Professional Liability</p> <p>In the event any section of the Specifications requires the Contractor to engage a Professional Engineer to provide design and/or engineering services, the Engineer engaged by the Contractor, as well as any sub consultant(s) performing professional services, shall provide Professional Liability Insurance.</p>	<p>\$1,000,000 per occurrence</p> <p>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 Agreement 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.</p> <p>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.</p>
<p>OTHER] Art. 22.1.8</p> <p><input type="checkbox"/> Umbrella/Excess Liability Insurance</p> <p>The Contractor shall provide Umbrella/Excess Liability Insurance in the minimum amounts shown to the right. 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.</p>	<p>\$10,000,000 per Occurrence and \$10,000,000 in Aggregate</p>

SCHEDULE A (FOR PUBLICLY BID PROJECTS)

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.

SCHEDULE A (FOR PUBLICLY BID PROJECTS)

Relating to Article 22 - Insurance

PART III. 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.

[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 or broker or agent]

[Name and title of authorized official, broker or agent (typewritten)]

State of)
County of) ss:

Sworn to before me this

_____ day of _____, 20____

NOTARY PUBLIC FOR THE STATE OF

SCHEDULE A (FOR PUBLICLY BID PROJECTS)

Relating to Article 22 - Insurance

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 shall be sent to the address set forth below or, in the absence of such address, to the **Commissioner's** address as provided elsewhere in this **Contract**.

ACCO's Office, Insurance Unit

30-30 Thomson Avenue, 4th Floor

Long Island City, New York 11101

SCHEDULE B

Guarantees and Warranties

(Reference: Section 01 7839, Article 2.7 of the DDC Standard General Conditions)

GUARANTY FROM CONTRACTOR

(1) Contractor's Guaranty Obligation: 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 the Contract), except for the areas of Work set forth below:

- Roofing, Waterproofing, and Joint Sealant Work. For these types of work, the guarantee period shall be (2) two years.
- Trees and/or Plant Material. For trees and/or plant material furnished and installed, the guarantee period shall be (2) two years. During the guarantee period, the Contractor shall provide all maintenance services set forth in the Specifications.

(2) Guaranty Period: The obligation of the Contractor, and its Surety under the Performance Bond, is limited to the period(s) of time specified above.

(3) Other Provisions Deemed Deleted: In the event the Specifications and/or the Contract Drawings contain any provisions regarding guaranty requirements, such provisions are deemed deleted and replaced with the guaranty requirements set forth in this Schedule B.

WARRANTY FROM MANUFACTURER

(1) Contractor's Obligation to Provide Warranties: The items of material and/or equipment for which manufacturer warranties are required are listed below. For each item of material and/or equipment listed below, the Contractor shall obtain a written warranty from the manufacturer. Such warranty shall provide that the material or equipment is free from defects for the period set forth below and will be replaced or repaired within such specified period. The Contractor shall deliver all required warranties to the Commissioner.

(2) Required Warranties:

Specification Number	Material or Equipment	Warranty Period (years)
233423	HVAC Power ventilators	1
238113.11	Packaged terminal Air Conditioner	1
262416	Panelboard	1
283111	Fire Alarm devices	1

(3) Application: The obligations under the warranty for the periods specified above shall apply only to the manufacturer of the material or equipment, and not to the Contractor or its Surety; provided, however, the Contractor retains responsibility for obtaining all required warranties from the manufacturers and delivering the same to the Commissioner.

(4) Other Provisions: The warranty requirements set forth in this Schedule B are also included in the Specifications.

- (a) In the event of any conflict between a warranty requirement set forth in the Specifications and a warranty requirement set forth in Schedule B, the warranty requirement set forth in Schedule B shall take precedence.
- (b) In the event a warranty requirement set forth in the Specifications is omitted from Schedule B, such omission from Schedule B shall have no effect and the Contractor's obligation to provide the manufacturer's warranty, as set forth in the Specifications, shall remain in full force and effect.
- (c) In the event a warranty requirement for a particular item of material or equipment is omitted from both Schedule B and the Specifications, and the manufacturer of such item actually provides a warranty, the Contractor shall be obligated to obtain and deliver to the Commissioner the highest level of warranty actually provided by that manufacturer.
- (d) In the event a warranty requirement is provided for a particular item of material or equipment, and such requirement specifies a warranty period that is longer than that which is actually provided by any of the specified manufacturers, the Contractor shall be obligated to obtain and deliver to the Commissioner the highest level of warranty actually provided by any of the specified manufacturers, unless otherwise directed in writing by the Commissioner.
- (e) Unless indicated otherwise Warranties are to take effect on the date of Substantial Completion.

SCHEDULE C

Contract Drawings

(Reference: Section 01 1000, Article 1.5 (A) of the DDC Standard General Conditions)

The Schedule set forth below lists all Contract Drawings for the Project.

<u>DRAWING NO.</u>	<u>DRAWING NAME</u>	<u>SHEET NO.</u>
T-001.00	COVER SHEET	1
T-002.00	GENERAL NOTES AND LIST OF DRAWINGS	2
A-100.00	ARCHITECTURAL NOTES	3
A-101.00	ELEVATOR CAR: PLAN, ELEVATION & DETAILS	4
A-200.00	PART ROOF FRAMING PLAN	5
A-300.00	STRUCTURAL SECTIONS AND NOTES	6
VT-100.00	ELEVATOR MACH. RM & PIT PLAN	7
M-001.00	HVAC NOTES, SYMBOL LIST & DETAILS	8
M-100.00	CELLAR FLOOR PART PLAN & HVAC CONSTRUCTION	9
P-001.00	PLUMBING NOTES & SYMBOL LIST	10
P-100.00	CELLAR FLOOR PART PLAN, PLUMBING CONSTRUCTION	11
E-100.00	ELECTRICAL POWER PLAN. CELLAR	12
FA-001.00	FA NOTES, SCOPE OF WORK, AND DRAWINGS LIST.	13
FA-1001.00	FIRE ALARM PLAN CELLAR	14
FA-101.00	FIRE ALARM PARTS FLOORS	15
FA-200.00	FIRE ALARM RISER DIAGRAM, AND I/O MATRIX.	16

SCHEDULE D

Electrical Motor Control Equipment

(Reference: 01 3506, Article 3.8 of the DDC Standard General Conditions)

Requirements for electrical motor equipment may be included in one or more sections of the Specifications for the Contract for the Project. Schedule D set forth below delineates specific information for electrical motor control equipment. In the event of any conflict between the Specifications and this Schedule D, Schedule D shall take precedence; provided, however, in the event of an omission from Schedule D (i.e., Schedule D omits either a reference to or information concerning electrical motor equipment which is set forth in the Specifications), such omission from Schedule D shall have no effect and the Contractor's obligation with respect to the electrical motor control equipment, as set forth in the Specifications, shall remain in full force and effect.

DB Disconnect Circuit Breaker (Switch) TS Thermal Switch MS Magnetic Starter CMS Comb. Mag. Starter	P Pilot Light F Firestat T Thermostat AL Alternator	BG Break Glass Station HOA Hand-Off Auto. PB Push Button Station RO Remote "off"
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Equip. Ident.	Location	# of Units	HP or KW	Volts and Phase	Control Type: See legend above	Remarks:
Elevator controller	Elev Mach Rm	1	25	208V/ 3P	DB, CMS, PB, HOA	

SCHEDULE E
Separation of Trades

NOT USED FOR SINGLE CONTRACTS

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CONTRACT # 1
GENERAL CONSTRUCTION WORK

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SECTION 022210 - BUILDING DEMOLITION**PART 1 - GENERAL****1.1 RELATED DOCUMENTS**

- A. The following documents apply to all required work for the Project: (1) the Contract Drawings, (2) the Specifications, (3) the General Conditions, (4) the Addendum, and (5) the Contract (City of New York Standard Construction Contract).

1.2 SUMMARY

- A. This Section includes the following:
1. Demolition and removal of building's structural debris.
 2. Removing below-grade construction.
 3. Disconnecting, capping or sealing, and abandoning in-place site utilities.
 4. Salvaging items for reuse by The City of New York.

1.3 MATERIALS OWNERSHIP

- A. Unless otherwise indicated, demolition waste becomes property of Contractor.
- B. Historic items, relics, antiques, and similar objects including, but not limited to, cornerstones and their contents, commemorative plaques and tablets, and other items of interest or value to The City of New York that may be uncovered during demolition remain the property of The City of New York.
1. Carefully salvage in a manner to prevent damage and promptly return to The City of New York.

1.4 SUBMITTALS PROCEDURES

- A. Refer to DDC General Conditions Section 01 33 00 "Submittal Procedures".

1.5 SUBMITTALS

- A. Qualification Data: For refrigerant recovery technicians.
- B. Proposed Protection Measures: Submit an informational report, including drawings, that indicates the measures proposed for protecting individuals and property, for dust control and, noise control. Indicate proposed locations and construction of barriers.
1. Adjacent Buildings: Detail special measures proposed to protect adjacent buildings to remain if required.
- C. Schedule of Building Demolition Activities: Indicate the following:
1. Detailed sequence of demolition work, with starting and ending dates for each activity.
 2. Temporary interruption of utility services.



- D. Building Demolition Plans: Drawings indicating the following:
 - 1. Locations of temporary protection and means of egress for adjacent occupied buildings.
- E. Inventory: Submit a list of items to be removed and salvaged and deliver to The City of New York prior to the start of demolition.
- F. Pre-demolition Video: Show existing conditions of adjoining construction and site improvements, including finish surfaces, that might be misconstrued as damage caused by building demolition operations. Submit before the Work begins.
- G. Landfill Records: Indicate receipt and acceptance of hazardous wastes by a landfill facility licensed to accept hazardous wastes.
- H. Statement of Refrigerant Recovery: Signed by refrigerant recovery technician responsible for recovering refrigerant, stating that all refrigerant that was present was recovered and that recovery was performed according to EPA regulation 40 CFR Part 82, Subpart F. Include name and address of technician and date refrigerant was recovered.

1.6 QUALITY ASSURANCE

- A. Refer to DDC General Conditions Section 01 40 00 “Quality Requirements”.
- B. Refrigerant Recovery Technician Qualifications: Certified by EPA-approved certification program.
- C. Regulatory Requirements: Comply with governing EPA notification regulations before beginning demolition. Comply with hauling and disposal regulations of the New York City Department of Environmental Protection.
- D. Standards: Comply with ANSI A10.6 and NFPA 241.
- E. Pre-demolition Conference: Conduct conference at Project site to comply with requirements in “DDC General Conditions.” Review methods and procedures related to building demolition including, but not limited to, the following:
 - 1. Inspect and discuss the condition of construction to be demolished.
 - 2. Review structural load limitations of existing structures.
 - 3. Review and finalize building demolition schedule and verify availability of demolition personnel, equipment, and facilities needed to make progress and avoid delays.
 - 4. Review and finalize protection requirements.
 - 5. Review procedures for noise control and dust control.
 - 6. Review procedures for the protection of adjacent buildings.
 - 7. Review items to be salvaged and returned to Commissioner.



1.7 PROJECT CONDITIONS

- A. Buildings to be demolished will be vacated and their use discontinued before start of the Work.
- B. Buildings immediately adjacent to the demolition area will be occupied. Conduct building demolition so operations of occupied buildings will not be disrupted.
 - 1. Provide not less than 72 hours' notice of activities that will affect operations of adjacent occupied buildings.
 - 2. Maintain access to existing walkways, exits, and other facilities used by occupants of adjacent buildings.
 - a. Do not close or obstruct walkways, exits, or other facilities used by occupants of adjacent buildings without written permission from the New York City Department of Buildings.
- C. The City of New York assumes no responsibility for buildings and structures to be demolished.
 - 1. Before building demolition, Commissioner will remove items of value.
- D. Hazardous Materials: It is not expected that hazardous materials will be encountered in work.
 - 1. If materials suspected of containing hazardous materials are encountered, do not disturb; immediately notify Commissioner and The City of New York. Hazardous materials will be removed by The City of New York under a separate contract.
- E. Hazardous Materials: Hazardous materials are present in buildings and structures to be demolished. A report on the presence of hazardous materials is on file for review and use. Examine report to become aware of locations where hazardous materials are present.
 - 1. Do not disturb hazardous materials or items suspected of containing hazardous materials except under procedures specified elsewhere in the Contract Documents.
 - 2. The Contractor will provide material safety data sheets for materials that are known to be present in buildings and structures to be demolished because of building operations or processes performed there.
- F. On-site storage or sale of removed items or materials is not permitted.

1.8 COORDINATION

- A. Arrange demolition schedule so as not to interfere with The City of New York's on-site operations.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION**3.1 EXECUTION REQUIREMENTS**

- A. Refer to DDC General Conditions for execution requirements.

3.2 EXAMINATION

- A. Verify that utilities have been disconnected and capped before starting demolition operations.
- B. Engage a professional engineer licensed in the State of New York to perform an engineering survey of condition of building to determine whether removing any element might result in structural deficiency or unplanned collapse of any portion of structure or adjacent structures during building demolition operations.
 - 1. Steel Tendons: Locate tensioned steel tendons and include recommendations for de-tensioning.
- C. Verify that hazardous materials have been remediated before proceeding with building demolition operations.

3.3 PREPARATION

- A. Refrigerant: Remove refrigerant from mechanical equipment according to 40 CFR 82 before starting demolition.
- B. Existing Utilities: Locate, identify, disconnect, and seal or cap off indicated utilities serving buildings and structures to be demolished.
 - 1. The City of New York will arrange to shut off indicated utilities when requested by Contractor.
 - 2. Arrange to shut off indicated utilities with utility companies.
 - 3. If removal, relocation, or abandonment of utility services will affect adjacent occupied buildings, then provide temporary utilities that bypass buildings and structures to be demolished and that maintain continuity of service to other buildings and structures.
- C. Existing Utilities: Do not start demolition work until utility disconnecting and sealing have been completed and verified in writing.
- D. Temporary Shoring: Provide and maintain interior and exterior shoring, bracing, or structural support to preserve stability and prevent unexpected movement or collapse of construction being demolished.
 - 1. Strengthen or add new supports when required during progress of demolition.
- E. Salvaged Items: Comply with the following:
 - 1. Clean salvaged items of dirt and demolition debris.
 - 2. Pack or crate items after cleaning. Identify contents of containers.



3. Store items in a secure area until delivery to the Commissioner.
4. Transport items to storage area designated by The City of New York or indicated on Drawings.
5. Protect items from damage during transport and storage.

3.4 PROTECTION

- A. Existing Facilities: Protect adjacent walkways, loading docks, building entries, and other building facilities during demolition operations. Maintain exits from existing buildings.
- B. Existing Utilities: Maintain utility services to remain and protect from damage during demolition operations.
 1. Do not interrupt existing utilities serving adjacent occupied or operating facilities unless authorized in writing by the Commissioner.
 2. Provide temporary services during interruptions to existing utilities, as acceptable to The City of New York and authorities having jurisdiction.
 - a. Provide at least 72 hours' notice to occupants of affected buildings if shutdown of service is required during changeover.
- C. Temporary Protection: Erect temporary protection, such as walks, fences, railings, canopies, and covered passageways, where required by NYC Building Code and as indicated. Comply with requirements in DDC General Conditions.
 1. Protect adjacent buildings and facilities from damage due to demolition activities.
 2. Protect existing site improvements, appurtenances, and landscaping to remain.
 3. Erect a plainly visible fence around drip line of individual trees or around perimeter drip line of groups of trees to remain.
 4. Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.
 5. Provide protection to ensure safe passage of people around building demolition area and to and from occupied portions of adjacent buildings and structures.
 6. Protect walls, windows, roofs, and other adjacent exterior construction that are to remain and that are exposed to building demolition operations.
 7. Erect and maintain dustproof partitions and temporary enclosures to limit dust, noise, and dirt migration to occupied portions of adjacent buildings.
- D. Remove temporary barriers and protections where hazards no longer exist. Where open excavations or other hazardous conditions remain, leave temporary barriers and protections in place.



3.5 DEMOLITION, GENERAL

- A. General: Demolish indicated existing buildings completely from site daily. Use methods required to complete the Work within limitations of NYC Department of Buildings, and as follows:
 - 1. Do not use cutting torches until work area is cleared of flammable materials. Maintain portable fire-suppression devices during flame-cutting operations.
 - 2. Maintain fire watch during and for at least 4 hours after flame cutting operations have stopped.
 - 3. Maintain adequate ventilation when using cutting torches.
 - 4. Locate building demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
- B. Engineering Surveys: During demolition, perform surveys to detect hazards that may result from building demolition activities.
- C. Site Access and Temporary Controls: Conduct building demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
 - 1. Do not close or obstruct streets, walks, walkways, or other adjacent occupied or used facilities without permission from the Commissioner. Provide alternate routes around closed or obstructed traffic ways if required.
 - 2. Use water mist and other suitable methods to limit spread of dust and dirt. Do not use water when it may damage adjacent construction or create hazardous or objectionable conditions, such as ice, flooding, and pollution.
- D. Explosives: Use of explosives is not permitted.

3.6 DEMOLITION BY MECHANICAL MEANS

- A. Remove debris from elevated portions of the building by chute, hoist, or other device that will convey debris to grade level in a controlled descent.

3.7 SITE RESTORATION

- A. Below-Grade Areas: Completely fill below-grade areas and voids resulting from building demolition operations with satisfactory soil materials.
- B. Site Grading: Uniformly rough grade area of demolished construction to a smooth surface, free from irregular surface changes. Provide a smooth transition between adjacent existing grades and new grades.

3.8 REPAIRS

- A. Promptly repair damage to adjacent buildings caused by demolition operations.



3.9 DISPOSAL OF DEMOLISHED MATERIALS

- A. Remove demolition waste materials from Project site.
- B. Remove demolition waste materials from Project site and legally dispose of them in an EPA-approved landfill acceptable to the Commissioner.
 - 1. Do not allow demolished materials to accumulate on-site.
 - 2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
- C. Do not burn demolished materials.

3.10 CLEANING

- A. Clean adjacent structures and improvements of dust, dirt, and debris caused by building demolition operations. Return adjacent areas to condition existing before building demolition operations began.

END OF SECTION 022210



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**SECTION 028013 – GENERAL CONTRACTOR WORK
NOVEMBER 2017 VERSION**

ALLOWANCE FOR INCIDENTAL ASBESTOS ABATEMENT

1.01 SCOPE FOR ASBESTOS ABATEMENT WORK

- A. The "General Conditions" apply to the work of this Section.
- B. The asbestos abatement contractor shall remove asbestos containing materials as needed to perform the other work of this Contract when discovered during the course of work. When required, the asbestos abatement contractor shall replace the ACM with non-asbestos containing materials. An allowance of **\$15,000.00** for the **General Contractor** is herein established for this incidental work when so ordered and authorized by the Commissioner.
- C. All work shall be done in accordance with the applicable provisions of the rules and regulations of the asbestos control program as promulgated by Title 15 Chapter I of RCNY and New York State Department of Labor Industrial Code Rule 56 cited as 12 NYCRR Part 56, whichever is more stringent as per latest amendments to these laws and as modified herein by these specifications.
- D. All disposal of asbestos contaminated material shall be per Local Law 70/85.
- E. The asbestos abatement contractor's attention is directed to the fact that certain methods of asbestos abatement are protected by patents. To date, patents have been issued with respect to "negative pressure enclosure" or "negative-air" or "reduced pressure" and "glove bag".
- F. The asbestos abatement contractor shall be solely responsible for and shall hold the Department of Design and Construction and the City harmless from any and all damages, losses and expenses resulting from any infringement by the asbestos abatement contractor of any patent, including but not limited to the patents described above, used by the asbestos abatement contractor during performance of this agreement.
- G. "Asbestos" shall mean any hydrated mineral silicate separable into commercially usable fibers, including but not limited to chrysotile (serpentine), amosite (cummingtonite-grunerite), crocidolite (riebeckite), tremolite, anthrophyllite and actinolite.
- H. Prior to starting, the asbestos abatement contractor must notify the Commissioner of the Department of Design and Construction if he/she anticipates any difficulty in performing the Work as required by these Specifications. The asbestos abatement contractor is responsible to prepare and submit all filings, notifications, etc. required by all City, State and Federal regulatory agencies having jurisdiction.

The asbestos abatement contractor is responsible for submitting the Asbestos Project Notification Form (ACP-7 Form) to the Department of Environmental Protection, Asbestos Control Program, as per Title 15, Chapter I of RCNY and to the NYSDOL as per Industrial Code Rule 56.



The asbestos abatement contractor is responsible for preparing, and submitting Asbestos Variance Application (ACP-9). If a Variance is required, the asbestos abatement contractor is responsible to retain a NYSDOL Asbestos Project Designer, as defined in Title 15, Chapter 1 of the RCNY to prepare and submit the required variance.

The general contractor is responsible for preparing and submitting an Asbestos Abatement Permit and/or Work Place Safety Plans (WPSP) that may be required for the completion of the Contract or incidental work. If such plans are required, the general contractor is responsible for retaining a registered design professional as defined in Title 15, Chapter 1 of the RCNY to prepare and submit the required plans.

The asbestos abatement contractor is responsible for the submission of all required documents to the NYCDEP to acquire the appropriate Asbestos Project Conditional Closeout (ACP-20) and/or Asbestos Project Completion Forms (ACP-21) on a timely basis for the completion of the incidental work encountered under this contract.

The asbestos abatement contractor will be required to attend an on-site job meeting with the Construction Project Manager prior to the start of work to examine conditions and plan the sequence of operations, etc.

The asbestos abatement contractor shall have a NYSDOL/NYCDEP Asbestos Supervisor onsite to oversee the work and conduct a final visual inspection as required by both Title 15, Chapter 1 of the RCNY and NYSDOL Industrial Code Rule 56.

- I. All work shall be done during regular working hours unless the asbestos abatement contractor requests authorization to work in other than regular working hours and such authorization is granted by the Commissioner. (Regular work hours are those hours during which any given facility, in which work is to be done, is customarily open and functioning, normally between the hours of 8:00 A.M. and 4:00 P.M. Monday - Friday.) If such work schedule is authorized by the Commissioner, the work shall be done at no additional cost to the City.
- J. The Commissioner may order that work be done in other than regular working hours as herein by defined and this order may require the asbestos abatement contractor to pay premium or overtime wages to complete the work. If the Commissioner orders work in other than regular working hours, the asbestos abatement contractor shall multiply the unit price for that portion of the work requiring premium wages by 1.50 when computing payment in accordance with Paragraph 1.09. All requests for premium payment must be supported by certified payroll sheets and field sheets approved by the Construction Project Manager.

1.02 QUALIFICATIONS OF ASBESTOS ABATEMENT CONTRACTOR

- A. Requirements: The asbestos abatement contractor must be approved through the Department's Request for Subcontractor Approval, administered by the Agency Chief Contracting Office (ACCO), Vendor Integrity Unit. The asbestos abatement contractor must demonstrate compliance with the special experience requirements set forth in subparagraphs (1) through (6) below. Such documentation shall include without limitation, all required licenses, certificates, and documentation.



1. The asbestos abatement contractor must, whether an individual, corporation, partnership, joint venture or other legal entity, demonstrate for the three year period prior to the work that it has been licensed by the New York State Department of Labor (NYSDOL), as an "Asbestos Abatement Contractor". The asbestos abatement contractor shall submit copies of the asbestos abatement contractors NYSDOL License for the past three years
 2. The asbestos abatement contractor must, for the three-year period prior to the work, have been in the business of providing asbestos abatement services as a routine part of its daily operations.
 3. The asbestos abatement contractor proposing to do asbestos abatement work must be thoroughly experienced in such work and must submit a list of five (5) asbestos abatement projects of similar size and complexity. The aggregate cost of these projects must be at least \$1,000,000 in each of the three years.
 4. For each project submitted to meet the experience requirements set forth above, the asbestos abatement contractor must submit the following information for the project; name and location of the project; name title and telephone number and email address of the owner or the owner's representative who is familiar with the asbestos abatement contractor's work; brief description of the scope of work completed as a prime or sub-asbestos abatement contractor; amount of contract or subcontract and the date of completion.
 5. The asbestos abatement contractor must demonstrate that it has the financial resources, certified supervisory personnel and equipment necessary to carry out the work and to comply with the required performance schedule, taking into consideration other business commitments. The asbestos abatement contractor must submit such documentation as may be required by the Department of Design and Construction to demonstrate that it has the requisite capacity to perform the required services of this contract. The Department may also conduct an inspection of the asbestos abatement contractor's facility to verify if the contractor has equipment and staffing to perform the work.
 6. The asbestos abatement contractor must submit a copy of their Corporate Health and Safety Plan for review and acceptance. A Job Hazard Analysis (JHA) for the specific work conducted must be included.
- B. Throughout the specifications, reference is made to codes and standards which establish qualities and types of workmanship and materials, and which establish methods for testing and reporting on the pertinent characteristics thereof. Provide materials or workmanship that meet or exceed the specifically named codes or standards where required by these specifications.
- C. Site Investigation: Asbestos abatement contractor shall inspect all the specifications and related drawings, and will investigate and confirm the site conditions affecting the work, including, but not limited to (1) through (5) below.



The asbestos abatement contractor will attend a walkthrough site inspection with the department's Project Manager and the Third-Party Air Monitor prior to the work. Such walkthrough will be scheduled at the Department's convenience.

1. Physical considerations and conditions of both the material and structure. These considerations include any obstacles or obstructions encountered in accessing or removing the material.
2. Handling, storage, transportation and disposal of the material.
3. Availability of qualified and skilled labor.
4. Availability of utilities.
5. Exact quantities of all materials to be disturbed and/or removed

1.03 ASBESTOS ABATEMENT CONTRACTOR RESPONSIBILITIES

The asbestos abatement contractor will visit the subject location within one (1) working day of notification to ascertain actual work required. If the project is identified as being "urgent", then work shall commence no later than 48 hours from the time of notification. In this event, the asbestos abatement contractor shall immediately notify when applicable EPA NESHAPS Coordinator, NYSDOL Asbestos Control Bureau and NYCDEP Asbestos Control Program of start of the work and file the necessary Asbestos Notifications and any applicable Variance Applications with the regulatory agencies cited above.

In the event that the project is not classified as "urgent" the asbestos abatement contractor shall notify the EPA NESHAPS Coordinator, NYSDOL and NYCDEP by submitting the requisite asbestos project notification forms, postmarked 10 days before activity begins if 260 linear feet or more and/or 160 square feet or more of asbestos containing material will be disturbed.

The following information must be included in the notification:

- A. Name and address of building City or operator;
- B. Project description:
 1. Size - square feet, number of linear feet, etc;
 2. Age - date of construction and renovations (if known);
 3. Use - i.e., office, school, industrial, etc.
 4. Scope - repair, demolition, cleaning, etc.
- C. Amount of asbestos involved in work and an explanation of techniques used to determine the amount;



- D. Building location/address, including Block and Lot numbers;
- E. Work schedule including the starting and completion dates;
- F. Abatement methods to be employed;
- G. Procedures for removal of asbestos-containing material;
- H. Name, title and authority of governmental representative sponsoring project.

1.04 WORK INCLUDED IN UNIT PRICE

The asbestos abatement contractor will be paid a basic unit price of **\$25.00** per square feet for the removal and disposal of asbestos containing material and replacement of the same with non-asbestos containing materials.

Unit price shall include all costs necessary to do the work of this Contract, including but not limited to: labor, materials, equipment, utilities, disposal, insurance, overhead and profit.

1.05 AIR MONITORING – ASBESTOS ABATEMENT CONTRACTOR

- A. "Air Sampling" shall mean the process of measuring the fiber content of a known volume of air collected during a specific period of time. The procedure utilized for asbestos follows the NIOSH Standard Analytical Method 7400 or the provisional transmission electron microscopy methods developed by the USEPA and/or National Institute of Standard and Technology which are utilized for lower detectability and specific fiber identification.
- B. Air monitoring of asbestos abatement contractor's personnel will be performed in conformance with OSHA requirements, (All costs associated with this work are deemed included in the unit price.).
- C. Qualifications of Testing Laboratory:

The industrial hygiene laboratory shall be a current proficient participant in the American Industrial Hygiene Association (AIHA) PAT Program. The laboratory identification number shall be submitted and approved by the City. The laboratory shall be accredited by the AIHA and New York State Department of Health Environmental Laboratory Approval Program (ELAP).

Note: Work area air testing and analysis before, during and upon completion of work (clearance testing) will be performed by a Third Party Air Monitor under separate Contract with the City.

1.06 THIRD PARTY MONITORING AND LABORATORY

- A. The NYCDDC, at its own expense, will employ the services of an independent Third Party Air Monitoring Firm and Laboratory. The Third Party Air Monitor will perform air sampling activities and project monitoring at the Work Site.



- B. The Laboratory will perform analysis of air samples utilizing Phase Contrast Microscopy (PCM) and/or Transmission Electron Microscopy (TEM).
- C. The Third Party Air Monitoring Firm and the designated Project Monitor shall have access to all areas of the asbestos removal project at all times and shall continuously inspect and monitor the performance of the asbestos abatement contractor to verify that said performance complies with this Specification. The Third-Party Air Monitor shall be on site throughout the entire abatement operation.
- D. The NYCDDC will be responsible for costs incurred with the Third Party Air Monitoring Firm and laboratory work. Any subsequent additional testing required due to limits exceeded during initial testing shall be paid for by the asbestos abatement contractor.

1.07 PAYMENT REQUEST DOCUMENTATION

- B. The following information shall be included for each payment request:
 - 1. Description of work performed.
 - 2. Linear footage and pipe sizes involved.
 - 3. Square footage for boiler & breaching insulation removed.
 - 4. Square footage of non pipe and boiler areas removed, patched, enclosed, sealed, or painted.
 - 5. Square footage of encapsulation, sealing, patching, and painting involved.
 - 6. Total cost associated with compliance with the assigned task.
 - 7. Architectural, Electrical, HVAC, Plumbing, etc. work incidental to the Asbestos Abatement Work.
 - 8. A certified copy (in form 4312-39) to the Comptroller or Financial Officer of the New York City to the effect that the financial statement is true.
 - 9. A signed copy (in form 6506q-6) of certificate of compliance with non-discriminatory provisions of the Contract.
 - 10. Attach a copy of valid workmen compensation insurance.
 - 11. Valid asbestos insurance per occurrence.
 - 12. General liability insurance when required.
- C. Each payment request shall include a grand total for all work completed that billing period, the landfill waste manifests and a copy of waste transporter permit. The



Department of Design and Construction will inspect the work performed, review the cost and approve or disapprove requests for payment.

- D. **EXPOSURE LOG:** With this final payment, the asbestos abatement contractor shall submit a listing of the names and social security numbers of all employees actively engaged in the abatement work of this Contract. This list shall include a summary showing each part of the abatement work in which the employee was engaged and the dates thereof.

1.08 QUANTITY CALCULATIONS

In order to determine the square footage involved for the various pipe sizes of pipe insulation that might be encountered, the following table is to be used.

<u>PIPE INSULATION SIZE O.D.</u>	<u>PIPE SIZE O.D.</u>	<u>SQUARE FOOTAGE PER LINEAR FOOT</u>
2-1/2"	1/2"	0.65
2-3/4"	3/4"	0.72
3"	1"	0.79
3-1/4"	1-1/4"	0.85
3-1/2"	1-1/2"	0.92
4"	2"	1.05
4-1/2"	2-1/2"	1.18
5"	3"	1.31
6"	3-1/4"	1.57
7"	3-1/2"	1.83
8"	4"	2.09
9"	5"	2.36
10"	6"	2.62
12"	8"	3.14
14"	10"	3.67
16"	12"	4.19
18"	14"	4.71

1.09 METHOD OF PAYMENT

Payment shall be made in accordance with Items A through R below. Payment shall be calculated based on the actual quantity of the item performed by the asbestos abatement contractor, times the unit price specified below. Credits may apply to certain times, as specified below.

- A. **REMOVAL, DISPOSAL AND REPLACEMENT OF ASBESTOS CONTAINING PIPE INSULATION:** Actual linear footage, multiplied by the square footage factor listed for the respective pipe size in Section 1.08, multiplied by the unit price in Section 1.04.

EXAMPLE: 100 lin.ft. of 1/2" pipe and 100 lin.ft. of 6" pipe, including elbows, tees. Flanges, etc.

$$100 \times 0.65 = 65 \text{ sq.ft.} \qquad 65 \times \text{unit price} = \text{Payment}$$



$$100 \times 2.62 = 262 \text{ sq.ft.} \quad 262 \times \text{unit price} = \text{Payment}$$

- B. **REMOVAL, DISPOSAL AND REPLACEMENT OF BOILER INSULATION:** (all types including Silicate Block and including the removal/replacement of metal jacketing) Payment shall be made at 1.5 times the unit price per square foot.

EXAMPLE: Item B. removal and replacement of 1000 S.F. of boiler insulation (incl. Silicate block)

$$1000 \text{ S.F.} \times (1.5) \times \text{the Unit Price} = \text{Payment}$$

- C. **REMOVAL, DISPOSAL AND REPLACEMENT OF TANK INSULATION:** (all types including removal/replacement of metal jacketing) Payment shall be made at 1.5 times the unit price per square foot.
- D. **REMOVAL, DISPOSAL AND REPLACEMENT OF BOILER UPTAKE, & BREACHING INSULATION:** (all types including stiffening angles and wire lath) Payment shall be made at 2.0 times the unit price per square foot.
- E. **REMOVAL, DISPOSAL AND REPLACEMENT OF DUCT INSULATION:** Payment shall be made at 1.0 times the unit price per square foot.
- F. **REMOVAL, DISPOSAL AND REPLACEMENT OF SOFT ASBESTOS CONTAINING MATERIAL:** (Including sprayed-on fire proofing and sound proofing) Payment shall be made at 1.0 times the unit price per square foot of surface area. Area of irregular surfaces must be calculated and confirmed with DDC representative.
- G. **ACOUSTIC PLASTER REPAIR AND/OR ENCAPSULATION:** Payment shall be made at 0.5 times the unit price per square foot.
- H. **PATCHING OR REPAIR** of items listed in A through F will be paid at 0.33 times the unit price per square foot.
- I. **REMOVAL, DISPOSAL AND REPLACEMENT OF WATERPROOFING ASBESTOS CONTAINING MATERIAL:** (including friable and non-friable waterproofing material from interior and exterior walls, floors, foundations, penetrations, louvers, vents and openings other than windows, doors and skylights) Payment shall be made at 0.5 times the unit price per square foot.
- J. **REMOVAL, DISPOSAL AND REPLACEMENT OF ASBESTOS CONTAINING ELECTRICAL WIRING INSULATION:** (including friable and non-friable wiring insulation) Payment shall be made at 0.33 times the unit price per square foot.
- K. **PAINTING:** Payment shall be made at 0.05 times the unit price per square foot.
- L. **REMOVAL AND DISPOSAL OF ASBESTOS-CONTAINING PLASTER:** from ceilings and walls, including any wire lath and disposal as asbestos containing waste. Payment shall be made at 0.80 times the unit price per square foot.



- M. **REMOVAL AND DISPOSAL OF ASBESTOS-CONTAINING FLOOR TILES, CEILING TILES, TRANSITE PANELS:** (including any adhesive, glue, mastic and/or underlayment) and disposal as asbestos containing waste. Payment shall be made at 0.40 times the unit price per square foot. If multiple layers are discovered, each additional layer shall be paid at 0.20 times the unit price per square foot.
- N. **ADDITIONAL CLEAN UP/HOUSEKEEPING OF WORK AREA:** (excluding pre-cleaning of work area required by regulations) HEPA vacuuming and wet cleaning of asbestos contaminated surface. Payment shall be made at 0.20 times the unit price per square foot. When GLOVE BAG is employed to remove ACM, cost of HEPA vacuuming and wet cleaning of floor area up to 3 feet on each side of glove-bag shall be included in unit price and no extra payment will be made.
- O. **REMOVAL, DISPOSAL OF ASBESTOS-CONTAINING ROOFING MATERIAL:** including mastic, flashing and sealant compound and provide temporary asbestos-free roof covering consisting of one layer of rolled roofing paper sealed with asphaltic roofing compound. Payment shall be made at 0.8 times the unit price per square foot. Credit at a rate of 0.33 times the unit price will be taken for each square foot of temporary roof covering which the asbestos abatement contractor is directed not to install.
- P. **PICK-UP AND DISPOSAL OF GROSS DEBRIS:** (excluding any waste generated from abatement under Item A-R) at a rate of \$150 per cubic yard for asbestos contaminated waste and \$75 per cubic yard for non-asbestos contaminated waste. This cost includes all labor and material cost associated with work.
- Q. **REMOVAL OF ASBESTOS-CONTAINING BRICK, BLOCK, MORTAR, CEMENT OR CONCRETE:** along with all surfacing materials including wire lath and/or other supporting structures and disposal as ACM waste. Payment shall be made at a rate of \$25.00 per cubic foot of material removed.
- R. **REMOVAL AND DISPOSAL OF ASBESTOS CONTAINING WINDOW/DOOR CAULKING:** including friable and non-friable caulking, weather-stripping, glazing, sealants or other waterproofing materials applied to windows, doors, skylights, etc. Payment shall be made at the rate of \$400.00 per opening regardless of size or configuration. This cost includes labor, consumable materials, set-up/breakdown, removal and disposal, as required.

Note 1: CREDIT: For items listed in A through F, a credit at a rate of 0.33 times the unit price, times the respective multiplier (for each item) will be taken for each square foot of insulation which the asbestos abatement contractor is not directed to reapply.

Note 2: MINIMUM PAYMENT: The minimum payment per call at any individual job sites or various job sites during the same day will be eight hundred dollars (\$800.00).

Note 3: All payments shall be made as described in paragraph 1.09 herein.

Note 4: WORKING HIGHER THAN 12 FEET ABOVE FLOOR LEVEL OR WORK REQUIRING COMPLEX SCAFFOLDING OR CONSTRUCTION WORK PLATFORMS: Provisions are made in this Contract to compensate the asbestos abatement contractor for work performed in locations that are difficult to access due to work at elevations that are significantly



higher than the normal work level. The unit price for these items will be paid at 1.20 times the unit price described in Paragraphs 1.09, A through R for those portions of the work that are more than twelve (12) feet above the grade for that would be judged as the normal working level.

1.10 GUARANTEE

- A. Work performed in compliance with each task shall be guaranteed for a period of one year from the date the completed work is accepted by the Department of Design and Construction.
- B. The Commissioner of The Department of Design and Construction will notify the asbestos abatement contractor in writing regarding defects in work under the guarantee.

1.11 OCCUPANCY OF SITE NOT EXCLUSIVE

Attention is specifically drawn to the fact that contractors, performing the work of other Contracts, may be brought upon any of the work sites of this Contract. Therefore, the asbestos abatement contractor shall not have exclusive rights to any site of his work and shall fully cooperate and coordinate his work with the work of other contractors who may be brought upon any site of the work of this Contract. This paragraph applies to those areas outside the regulated Work Area as defined by Title 15, Chapter I of RCNY.

1.12 SUBMITTALS

- A. Pre-Construction Submittals:
 - 1. Attend a pre-construction meeting scheduled by the City of New York Department of Design and Construction. This meeting shall also be attended by a designated representative of the City of New York third party air monitoring firm, facility manager and the Construction Project Manager. At this meeting, the asbestos abatement contractor shall present three copies of the following items:
 - a. asbestos abatement contractor's scope of work, work plan and schedule.
 - b. Asbestos project notifications, approved variances and plans to Government Agencies.
 - c. Copies of Permits, clearance and licenses if required.
 - d. Schedules: the asbestos abatement contractor shall provide to the Construction Project Manager a copy of the following schedules for approval. Once approved, schedules shall be maintained and updated as received. asbestos abatement contractor shall post a copy of all schedules at the site:
 - (1) A construction schedule stating critical dates of the project including, but not limited to, mobilization, Work Area preparation, demolition, gross removal, fine cleaning, encapsulation,



inspections, clearance monitoring, and phase of refinishing and final inspections. The schedule shall be updated biweekly, at a minimum.

- (2) A schedule of staffing stating number of workers per shift per activity, name and number of supervisor(s) per shift, shifts per day, and total days to be worked.
 - (3) Submit all changes in schedule or staffing to the Construction Project Manager prior to implementation.
- e. Written description of emergency procedures to be followed in case of injury or fire. This section must include evacuation procedures, source of medical assistance (name and telephone number to nearest hospital) and procedures to be used for access by medical personnel (examples: first aid squad and physician). NOTE: Necessary Emergency Procedures Shall Take Priority Over All Other Requirements of These Specifications.
- f. Safety Data Sheets (SDS) for encapsulants, sealants, firestopping foam, cleaners/disinfectants, spray adhesive and any and all potentially hazardous materials that may be employed on the project. No work involving the aforementioned will be allowed to proceed until SDS are reviewed.
- g. Worker Training and Medical Surveillance: The asbestos abatement contractor shall submit a list of the persons who will be employed by him /her to perform the removal work. Present evidence that workers have received proper training required by the regulations and the medical examinations required by OSHA 29 CFR 1926.1101.
- h. Logs: Specimen copies of daily progress log, visitor's log, and disposal log.
- (1) The asbestos abatement contractor shall provide a permanently bound log book of minimum 8-1/2" x 11" size at the entrance to the Worker and Waste Decontamination enclosure system as hereinafter specified. Log book shall contain on title page the project name, name, address and phone number of the asbestos abatement contractor; name, address and phone number of asbestos abatement contractor and City's third party air monitoring firm; emergency numbers including, but not limited to local Fire/Rescue Department. Log book shall contain a list of personnel approved for entry into the Work Area.
 - (2) All entries into the log shall be made in non-washable, permanent ink and such pen shall be strung to or otherwise attached to the log to prevent removal from the log-in area. Under no circumstances shall pencil entries be permitted. Any significant events occurring



during the abatement project shall be entered into the log. Upon completion of the job, the asbestos abatement contractor shall submit the logbook containing a day-to-day record of personnel log entries countersigned by the Construction Project Manager every day.

- i. Worker's Acknowledgments: Submit statements signed by each employee that the employee has received training in the proper handling of ACM, understands the health implications and risks involved; and understands the use and limitations of the respiratory equipment to be used.

B. During Construction Submittals:

1. Security and safety logs showing names of person entering workspace, date and time of entry and exit, record of any accident, emergency evacuation, and any other safety and/or health incident.
2. Progress logs showing the number of workers, supervisors, hours of work and tasks completed shall be submitted daily to the Construction Project Manager.
3. Floor plans indicating asbestos abatement contractor's current work progress shall be submitted for review by the Construction Project Manager.
4. All asbestos abatement contractors' air monitoring and inspection results.

C. Project Closeout Submittals:

Upon completion of the project and as a condition of acceptance, the asbestos abatement contractor shall present two copies of the following items, bound and indexed:

1. Lien Waivers from asbestos abatement contractor, sub-asbestos abatement contractors and Suppliers,
2. Daily OSHA air monitoring results,
3. All Waste Manifests (Asbestos and Construction Debris), seals and disposal logs,
4. Field Sign-In/Sign-Out Logs for every shift,
5. Copies of all Building Department Forms and Permits,
6. A Letter of Compliance stating that all the work on this project was performed in accordance with the Specifications and all applicable Federal, State and Local regulations,



7. All Warranties as stated in the Specifications,
 - a. Fully executed disposal certificates and transportation manifest.
8. Project Record: The asbestos abatement contractor shall maintain a project record for all small and large asbestos projects. During the project, the project record shall be kept on site at all times. Upon completion of the project, the project record shall be maintained by the building owner. The project record shall be submitted to DDC as part of the close out documents. The project record shall consist of:
 - a. Copies of licenses of all asbestos abatement contractors involved in the project;
 - b. Copies of NYCDEP and NYSDOL supervisor and handler certificates for all workers engaged in the project;
 - c. Copies of all project notifications and reports filed with NYCDEP, NYSDOL and USEPA for the project, with any amendments or variances;
 - d. Copies of all asbestos abatement permits, including associated approved plans and work place safety plan;
 - e. A copy of the air sampling log and all air sampling results;
 - f. A copy of the abatement asbestos abatement contractor's daily log book;
 - g. Copies of all asbestos waste manifests;
 - h. A copy of all Project Monitor's Reports (ACP-15).
 - i. A copy of each ATR-1 Form completed for the asbestos project (if required).
 - j. A copy of each Asbestos Project Conditional Closeout Report (ACP-20) if required.
 - k. A copy of the Asbestos Project Completion Form (ACP-21).



1.13 PROTECTION OF FURNITURE AND EQUIPMENT

Cover all furniture and equipment that cannot be removed from Work Areas. Movable furniture and equipment will be removed from Work Areas by the asbestos abatement contractor prior to start of work. At the conclusion of the work (after final air testing), the asbestos abatement contractor will remove all plastic covering on walls, floors, furniture, equipment and reinstall furniture and equipment. He shall remove and store all sheaths, curtains and drapes, and reinstall same following final clean up.

1.14 UTILITIES

A. General:

All temporary facilities shall be subject to the approval of the Commissioner. Prior to starting work at any site, locations and/or sketches (if required) of temporary facilities must be submitted to the Construction Project Manager for the required approval.

B. Water:

The Department of Design and Construction will furnish all water needed for construction, at no cost to the asbestos abatement contractor in buildings under their jurisdiction. However, it is the responsibility of the asbestos abatement contractor to ensure that hot water is provided for showering in the decontamination unit. The asbestos abatement contractor shall furnish, install and maintain any needed equipment to meet these requirements at his own expense.

C. Electricity:

The Department of Design and Construction will furnish all electricity needed for construction, at no cost to the asbestos abatement contractor in a building, under their jurisdiction. The asbestos abatement contractor is responsible for routing the electric power to the abatement Work Area.

All temporary lighting and temporary electrical service for Work Area shall be in weatherproof enclosures and be ground fault protected.

D. In leased spaces, arrangements for water supplies and electricity must be made with the landlord. However, all such arrangements must be made through and are subject to approval of the Department of Design and Construction. Utilities will be provided at no cost to the asbestos abatement contractor. However, it is the asbestos abatement contractor's (or the general contractor's) responsibility to furnish and install a suitable distribution system to the Work Area. This system will be provided at no cost to the City.

1.15 FEES

The asbestos abatement contractor shall be responsible for any and all fees or charges imposed by Local, State or Federal Law, Rule and Regulation applicable to the work specified herein, including fees or charges which may be imposed subsequent to the date of the Bid opening.



**Department of
Design and
Construction**

FMS No. PV040ELEV
Issue Date: 12/06/2021

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SECTION 042200 - CONCRETE UNIT MASONRY

PART 1 - GENERAL

1.1. RELATED DOCUMENTS

- A. The following documents apply to all required work for the Project: (1) the Contract Drawings, (2) the Specifications, (3) the General Conditions, (4) the Addendum and (5) the Contract (City of New York Standard Construction Contract).

1.2. SUBMITTALS PROCEDURES

- A. Refer to DDC General Conditions Section 01 33 00 "Submittal Procedures".

1.3. INFORMATIONAL SUBMITTALS

- A. List of Materials Used in Constructing Mockups: List generic product names together with manufacturers, manufacturers' product names, model numbers, lot numbers, batch numbers, source of supply, and other information as required to identify materials used. Include mix proportions for mortar and grout and source of aggregates.
- B. Mix Designs: For each type of mortar and grout Include description of type and proportions of ingredients.
 - 1. Include test reports for mortar mixes required to comply with property specification. Test according to ASTM C 109/C 109M for compressive strength, ASTM C 1506 for water retention, and ASTM C 91 for air content.
 - 2. Include test reports, according to ASTM C 1019, for grout mixes required to comply with compressive strength requirement.
- C. Statement of Compressive Strength of Masonry: For each combination of masonry unit type and mortar type, provide statement of average net-area compressive strength of masonry units, mortar type, and resulting net-area compressive strength of masonry determined according to Tables 1 and 2 in ACI 530.1/ASCE 6/TMS 602.

1.4. QUALITY ASSURANCE

- A. Refer to DDC General Conditions Section 01 40 00 "Quality Requirements".
- B. Source Limitations for Masonry Units: Obtain exposed masonry units of a uniform texture and color, or a uniform blend within the ranges accepted for these characteristics, from single source from single manufacturer for each product required.
- C. Source Limitations for Mortar Materials: Obtain mortar ingredients of a uniform quality, including color for exposed masonry, from single manufacturer for each cementitious component and from single source or producer for each aggregate.
- D. Masonry Standard: Comply with ACI 530.1/ASCE 6/TMS 602 unless modified by requirements in the Contract Documents.



1.5. DELIVERY, STORAGE, AND HANDLING

- A. Store cementitious materials on elevated platforms, under cover, and in a dry location. Do not use cementitious materials that have become damp.
- B. Store aggregates where grading and other required characteristics can be maintained, and contamination avoided.
- C. Deliver preblended, dry mortar mix in moisture-resistant containers designed for use with dispensing silos. Store preblended, dry mortar mix in delivery containers on elevated platforms, under cover, and in a dry location or in covered weatherproof dispensing silos.
- D. Store masonry accessories, including metal items, to prevent corrosion and accumulation of dirt and oil.

1.6. PROJECT CONDITIONS

- A. Protection of Masonry: During construction, cover tops of walls, projections, and sills with waterproof sheeting at end of each day's work. Cover partially completed masonry when construction is not in progress.
 - 1. Extend cover a minimum of 24 inches down both sides of walls and hold cover securely in place.
- B. Do not apply uniform floor or roof loads for at least 12 hours and concentrated loads for at least three days after building masonry walls or columns.
- C. Stain Prevention: Prevent grout, mortar, and soil from staining the face of masonry to be left exposed or painted. Immediately remove grout, mortar, and soil that come in contact with such masonry.
 - 1. Protect base of walls from rain-splashed mud and from mortar splatter by spreading coverings on ground and over wall surface.
 - 2. Protect sills, ledges, and projections from mortar droppings.
 - 3. Protect surfaces of window and door frames, as well as similar products with painted and integral finishes, from mortar droppings.
 - 4. Turn scaffold boards near the wall on edge at the end of each day to prevent rain from splashing mortar and dirt onto completed masonry.
- D. Cold-Weather Requirements: Do not use frozen materials or materials mixed or coated with ice or frost. Do not build on frozen substrates. Remove and replace unit masonry damaged by frost or by freezing conditions. Comply with cold-weather construction requirements contained in ACI 530.1/ASCE 6/TMS 602.
 - 1. Cold-Weather Cleaning: Use liquid cleaning methods only when air temperature is 40 deg F and higher and will remain so until masonry has dried, but not less than 7 days after completing cleaning.
- E. Hot-Weather Requirements: Comply with hot-weather construction requirements contained in ACI 530.1/ASCE 6/TMS 602.



PART 2 - PRODUCTS

2.1 MORTAR AND GROUT MATERIALS

- A. Portland Cement: ASTM C 150, Type I or II, except Type III may be used for cold-weather construction. Provide natural color or white cement as required to produce mortar color indicated.
- B. Hydrated Lime: ASTM C 207, Type S.
- C. Portland Cement-Lime Mix: Packaged blend of Portland cement and hydrated lime containing no other ingredients.
- D. Masonry Cement: ASTM C 91.
 - 1. Products: Subject to compliance with requirements, provide products by one of the following:
 - a. Capital Materials Corporation; Flamingo Color Masonry Cement.
 - b. Cemex S.A.B. de C.V.; Brikset Type N. Citadel Type S. Dixie Type S. Kosmortar Type N. Richmortar. Victor Plastic Cement.
 - c. Essroc, Italcementi Group; Brixment or Velvet.
 - d. Holcim (US) Inc.; Mortamix Masonry Cement Rainbow Mortamix Custom BuffMasonry Cement. White Mortamix Masonry Cement.
 - e. Lafarge North America Inc.; Magnolia Masonry Cement. Lafarge Masonry Cement. Trinity White Masonry Cement.
 - f. Lehigh Cement Company; Lehigh Masonry Cement. Lehigh White MasonryCement.
 - g. National Cement Company, Inc.; Coosa Masonry Cement.
 - h. Or approved equal.
- E. Mortar Cement: ASTM C 1329.
 - 1. Products: Subject to compliance with requirements, products that may be incorporated into the work include the following:
 - a. Lafarge North America Inc.; Lafarge Mortar Cement or Magnolia Superbond Mortar Cement.
 - b. Advanced Building products
 - c. Cemex
 - d. Or approved equal.



- F. Aggregate for Mortar: ASTM C 144.
1. For mortar that is exposed to view, use washed aggregate consisting of natural sand or crushed stone.
 2. For joints less than 1/4 inch thick, use aggregate graded with 100 percent passing the No. 16 sieve.
 3. White-Mortar Aggregates: Natural white sand or crushed white stone.
 4. Colored-Mortar Aggregates: Natural sand or crushed stone of color necessary to produce required mortar color.
- G. Aggregate for Grout: ASTM C 404.
- H. Cold-Weather Admixture: Nonchloride, noncorrosive, accelerating admixture complying with ASTM C 494/C 494M, Type C, and recommended by manufacturer for use in masonry mortar of composition indicated.
1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include one of the following:
 - a. Euclid Chemical Company (The); Accelguard 80.
 - b. Grace Construction Products, W. R. Grace & Co. - Conn.; Morset.
 - c. Sonneborn Products, BASF Aktiengesellschaft; Trimix-NCA.
 - d. Or approved equal.
- I. Water-Repellent Admixture: Liquid water-repellent mortar admixture intended for use with CMUs, containing integral water repellent by same manufacturer.
1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, the following:
 - a. ACM Chemistries, Inc.; RainBloc for Mortar.
 - b. BASF Aktiengesellschaft; Rheopel Mortar Admixture.
 - c. Grace Construction Products, W. R. Grace & Co. - Conn.; Dry-Block Mortar Admixture.
 - d. Or approved equal.
- J. Water: Potable.

2.2 MISCELLANEOUS ANCHORS

- A. Unit Type Inserts in Concrete: Cast-iron or malleable-iron wedge-type inserts.
- B. Anchor Bolts: Headed or L-shaped steel bolts complying with ASTM A 307, Grade A; with



ASTM A 563 hex nuts and, where indicated, flat washers; hot-dip galvanized to comply with ASTM A 153/A 153M, Class C; of dimensions indicated.

C. Post installed Anchors:

1. Load Capacity: Capable of sustaining, without failure, a load equal to six times the load imposed when installed in unit masonry and four times the load imposed when installed in concrete, as determined by testing according to ASTM E 488, conducted by a qualified independent testing agency.
2. Material for Interior Locations: Carbon-steel components zinc plated to comply with ASTM B 633 or ASTM F 1941 Class Fe/Zn 5 unless otherwise indicated.
3. Material for Exterior Locations and Where Stainless Steel Is Indicated: Alloy stainless-steel bolts, ASTM F 593, and nuts, ASTM F 594

2.3 MISCELLANEOUS MASONRY ACCESSORIES

- A. Compressible Filler: Premolded filler strips complying with ASTM D 1056, Grade 2A1; compressible up to 35 percent; of width and thickness indicated; formulated from neoprene urethane or PVC.
- B. Bond-Breaker Strips: Asphalt-saturated, organic roofing felt complying with ASTM D 226, Type I (No. 15 asphalt felt).

2.4 MORTAR AND GROUT MIXES

- A. General: Do not use admixtures, including pigments, air-entraining agents, accelerators, retarders, water-repellent agents, antifreeze compounds, or other admixtures unless otherwise indicated.
 1. Do not use calcium chloride in mortar or grout.
 2. Use Portland cement-lime masonry cement or mortar cement mortar unless otherwise indicated.
 3. For exterior masonry, use Portland cement-lime masonry cement or mortar cement mortar.
 4. For reinforced masonry, use Portland cement-lime masonry cement or mortar cement mortar.
 5. Add cold-weather admixture (if used) at same rate for all mortar that will be exposed to view, regardless of weather conditions, to ensure that mortar color is consistent.
- B. Preblended, Dry Mortar Mix: Furnish dry mortar ingredients in form of a preblended mix. Measure quantities by weight to ensure accurate proportions, and thoroughly blend ingredients before delivering to Project site.
- C. Mortar for Unit Masonry: Comply with ASTM C 270, Proportion or Property Specification. Provide the following types of mortar for applications stated unless another type is indicated



or needed to provide required compressive strength of masonry.

1. For masonry below grade or in contact with earth, use Type M.
2. For reinforced masonry, use Type S.
3. For mortar parge coats, use Type S or Type N.
4. For exterior, above-grade, load-bearing and non-load-bearing walls and parapet walls; for interior load-bearing walls; for interior non-load-bearing partitions; and for other applications where another type is not indicated, use Type S.
5. For interior non-load-bearing partitions, Type O may be used instead of Type N.

D. Grout for Unit Masonry: Comply with ASTM C 476.

1. Use grout of type indicated or, if not otherwise indicated, of type fine or coarse that will comply with Table 1.15.1 in ACI 530.1/ASCE 6/TMS 602 for dimensions of grout spaces and pour height.
2. Proportion grout in accordance with ASTM C 476, Table 1 or paragraph 4.2.2 for specified 28-day compressive strength indicated, but not less than 2000 psi.
3. Provide grout with a slump of 8 to 11 inches as measured according to ASTM C 143/C 143M.

PART 3 - EXECUTION

3.1 EXECUTION REQUIREMENTS

- A. Refer to DDC General Conditions for execution requirements.

3.2 EXAMINATION

- A. Examine conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
1. For the record, prepare written report, endorsed by Installer, listing conditions detrimental to performance of work.
 2. Verify that foundations are within tolerances specified.
 3. Verify that reinforcing dowels are properly placed.

- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.3 TOLERANCES

- A. Dimensions and Locations of Elements:

1. For dimensions in cross section or elevation do not vary by more than plus 1/2 inch or minus 1/4 inch.



2. For location of elements in plan do not vary from that indicated by more than plus or minus 1/2 inch.
3. For location of elements in elevation do not vary from that indicated by more than plus or minus 1/4 inch in a story height or 1/2-inch total.

B. Lines and Levels:

1. For bed joints and top surfaces of bearing walls do not vary from level by more than 1/4 inch in 10 feet or 1/2 inch maximum.
2. For conspicuous horizontal lines, such as lintels, sills, parapets, and reveals, do not vary from level by more than 1/8 inch in 10 feet or 1/4 inch in 20 feet or 1/2 inch maximum.
3. For vertical lines and surfaces do not vary from plumb by more than 1/4 inch in 10 feet, 3/8 inch in 20 feet, or 1/2 inch maximum.
4. For conspicuous vertical lines, such as external corners, door jambs, reveals, and expansion and control joints, do not vary from plumb by more than 1/8 inch in 10 feet 1/4 inch in 20 feet, or 1/2 inch maximum.
5. For lines and surfaces do not vary from straight by more than 1/4 inch in 10 feet 3/8 inch in 20 feet or 1/2 inch maximum.
6. For vertical alignment of exposed head joints, do not vary from plumb by more than 1/4 inch in 10 feet or 1/2 inch maximum.

C. Joints:

1. For bed joints, do not vary from thickness indicated by more than plus or minus 1/8 inch with a maximum thickness limited to 1/2 inch.
2. For exposed bed joints, do not vary from bed-joint thickness of adjacent courses by more than 1/8 inch.
3. For head and collar joints, do not vary from thickness indicated by more than plus 3/8 inch or minus 1/4 inch.
4. For exposed head joints, do not vary from thickness indicated by more than plus or minus 1/8 inch.

3.4 MORTAR BEDDING AND JOINTING

- A. Tool exposed joints slightly concave when thumbprint hard, using a jointer larger than joint thickness unless otherwise indicated.
- B. Cut joints flush for masonry walls to receive plaster or other direct-applied finishes (other than paint) unless otherwise indicated.



3.5 ANCHORING MASONRY TO STRUCTURAL STEEL AND CONCRETE

- A. Anchor masonry to structural steel and concrete where masonry abuts or faces structural steel or concrete to comply with the following:
 - 1. Provide an open space not less than 1/2 inch wide between masonry and structural steel or concrete unless otherwise indicated. Keep open space free of mortar and other rigid materials.
 - 2. Anchor masonry with anchors embedded in masonry joints and attached to structure.
 - 3. Space anchors as indicated, but not more than 24 inches o.c. vertically and 36 inches o.c. horizontally.

3.6 PARGING

- A. Parge exterior faces of below-grade masonry walls, where indicated, in 2 uniform coats to a total thickness of 3/4 inch. Dampen wall before applying first coat and scarify first coat to ensure full bond to subsequent coat.
- B. Use a steel-trowel finish to produce a smooth, flat, dense surface with a maximum surface variation of 1/8 inch per foot. Form a wash at top of parging and a cove at bottom.
- C. Damp-cure parging for at least 24 hours and protect parging until cured.

3.7 REPAIRING, POINTING, AND CLEANING

- A. Remove and replace masonry units that are loose, chipped, broken, stained, or otherwise damaged or that do not match adjoining units. Install new units to match adjoining units; install in fresh mortar, pointed to eliminate evidence of replacement.
- B. Pointing: During the tooling of joints, enlarge voids and holes, except weep holes, and completely fill with mortar. Point up joints, including corners, openings, and adjacent construction, to provide a neat, uniform appearance. Prepare joints for sealant application, where indicated.
- C. In-Progress Cleaning: Clean unit masonry as work progresses by dry brushing to remove mortar fins and smears before tooling joints.
- D. Final Cleaning: After mortar is thoroughly set and cured, clean exposed masonry as follows:
 - 1. Remove large mortar particles by hand with wooden paddles and nonmetallic scrape hoes or chisels.
 - 2. Test cleaning methods on sample wall panel; leave one-half of panel uncleaned for comparison purposes. Obtain Commissioner's approval of sample cleaning before proceeding with cleaning of masonry.
 - 3. Protect adjacent stone and non-masonry surfaces from contact with cleaner by covering them with liquid strippable masking agent or polyethylene film and waterproof masking tape.



4. Wet wall surfaces with water before applying cleaners; remove cleaners promptly by rinsing surfaces thoroughly with clear water.
5. Clean concrete masonry by cleaning method indicated in NCMA TEK 8-2A applicable to type of stain on exposed surfaces.

3.8 MASONRY WASTE DISPOSAL

- A. Salvageable Materials: Unless otherwise indicated, excess masonry materials are Contractor's property. At completion of unit masonry work, remove from Project site.
- B. Waste Disposal as Fill Material: Dispose of clean masonry waste, including excess or soil-contaminated sand, waste mortar, and broken masonry units, by crushing and mixing with fill material as fill is placed.
 1. Crush masonry waste to less than 4 inches in each dimension.
 2. Do not dispose of masonry waste as fill within 18 inches of finished grade.
- C. Excess Masonry Waste: Remove excess clean masonry waste that cannot be used as fill, as described above, and other masonry waste, and legally dispose of off The City of New York's property.

END OF SECTION 042200



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SECTION 051200 - STRUCTURAL STEEL FRAMING

PART 1 - GENERAL

1.1. RELATED DOCUMENTS

- A. The following documents apply to all required work for the Project: (1) the Contract Drawings, (2) the Specifications, (3) the General Conditions, (4) the Addendum and (5) the Contract (City of New York Standard Construction Contract).

1.2. SUMMARY

- A. Section Includes
 1. Structural steel.
 2. Grout.

1.3. DEFINITIONS

- A. Structural Steel: Elements of structural-steel frame, as classified by AISC 303, "Code of Standard Practice for Steel Buildings and Bridges."

1.4. PERFORMANCE REQUIREMENTS

- A. Connections: Provide details of simple shear connections required by the Contract Documents to be selected or completed by structural-steel fabricator including comprehensive engineering analysis by a qualified professional engineer in the State of New York to withstand loads indicated and comply with other information and restrictions indicated.
 1. Select and complete connections using schematic details indicated AISC 360, S-200 structural notes

1.5. SUBMITTALS PROCEDURES

- A. Refer to DDC General Conditions Section 01 33 00 "Submittal Procedures".

1.6. ACTION SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Shop Drawings: Show fabrication of structural-steel components.
 1. Include details of cuts, connections, splices, camber, holes, and other pertinent data.
 2. Include embedment drawings.
 3. Indicate welds by standard AWS symbols, distinguishing between shop and field welds, and show size, length, and type of each weld. Show backing bars that are to be removed and supplemental fillet welds where backing bars are to remain.
 4. Indicate type, size, and length of bolts, distinguishing between shop and field bolts.
 5. For structural-steel connections indicated to comply with design loads, include structural analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

- C. Welding Procedure Specifications (WPSs) and Procedure Qualification Records (PQRs): Provide according to AWS D1.1/D1.1M, "Structural Welding Code - Steel," for each welded joint whether prequalified or qualified by testing including the following:
 - 1. Power source (constant current or constant voltage).
 - 2. Electrode manufacturer and trade name, for demand critical welds.

1.7. INFORMATIONAL SUBMITTALS

- A. Qualification Data: For qualified Installer, fabricator, and testing agency.
- B. Welding certificates.
- C. Paint Compatibility Certificates: From manufacturers of topcoats applied over shop primers, certifying that shop primers are compatible with topcoats.
- D. Mill test reports for structural steel, including chemical and physical properties.
- E. Product Test Reports: For the following:
 - 1. Bolts, nuts, and washers including mechanical properties and chemical analysis.
 - 2. Shop primers.
 - 3. Non-shrink grout.

1.8. QUALITY ASSURANCE

- A. Refer to DDC General Conditions Section 01 40 00 "Quality Requirements".
- B. Welding Qualifications: Qualify procedures and personnel according to AWS D1.1/D1.1M, "Structural Welding Code - Steel."
 - 1. Welders and welding operators performing work on bottom-flange, demand-critical welds shall pass the supplemental welder qualification testing, as required by AWS D1.8.FCAW-S and FCAW-G shall be considered separate processes for welding personnel qualification.
- C. Comply with applicable provisions of the following specifications and documents:
 - 1. AISC 303.
 - 2. AISC 360.
 - 3. RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts."

1.9. DELIVERY, STORAGE, AND HANDLING

- A. Store materials to permit easy access for inspection and identification. Keep steel members off ground and spaced by using pallets, dunnage, or other supports and spacers. Protect steel members and packaged materials from corrosion and deterioration.
 - 1. Do not store materials on structure in a manner that might cause distortion, damage, or overload to members or supporting structures. Repair or replace damaged materials or structures as directed.



- B. Store fasteners in a protected place in sealed containers with manufacturer's labels intact.
 - 1. Fasteners may be repackaged provided The City of New York's testing and inspecting agency observes repackaging and seals containers.
 - 2. Clean and re-lubricate bolts and nuts that have become dry or rusty before use.

1.10. COORDINATION

- A. Coordinate selection of shop primers with topcoats to be applied over them. Comply with paint and coating manufacturers' recommendations to ensure that shop primers and topcoats are compatible with one another.
- B. Coordinate installation of anchorage items to be embedded in or attached to other construction without delaying the Work. Provide setting diagrams, sheet metal templates, instructions, and directions for installation.

PART 2 - PRODUCTS

2.1 STRUCTURAL-STEEL MATERIALS

- A. W-Shapes: ASTM A 992 Grade 50
- B. Plate and Bar: ASTM A 36
- C. Welding Electrodes: Comply with AWS requirements.

2.2 BOLTS, CONNECTORS, AND ANCHORS

- A. High-Strength Bolts, Nuts, and Washers: ASTM A 325 Type 1, heavy-hex steel structural bolts.
- B. Zinc-Coated High-Strength Bolts, Nuts, and Washers: ASTM A 325 Type 1, heavy-hex steel structural bolts.
 - 1. Finish: Hot-dip zinc coating.

2.3 PRIMER

- A. Primer: SSPC-Paint 25, Type I or Type II, zinc oxide, alkyd, linseed oil primer.
- B. Galvanizing Repair Paint: MPI#18, MPI#19, or SSPC-Paint 20.

2.4 GROUT

- A. Metallic, Shrinkage-Resistant Grout: ASTM C 1107, factory-packaged, metallic aggregate grout, mixed with water to consistency suitable for application and a 30-minute working time.
- B. Nonmetallic, Shrinkage-Resistant Grout: ASTM C 1107, factory-packaged, nonmetallic aggregate grout, noncorrosive and non-staining, mixed with water to consistency suitable for application and a 30-minute working time.



2.5 FABRICATION

- A. Structural Steel: Fabricate and assemble in shop to greatest extent possible. Fabricate according to AISC's "Code of Standard Practice for Steel Buildings and Bridges" and AISC 360.
 - 1. Camber structural-steel members where indicated.
 - 2. Fabricate beams with rolling camber up.
 - 3. Identify high-strength structural steel according to ASTM A 6/A 6M and maintain markings until structural steel has been erected.
 - 4. Mark and match-mark materials for field assembly.
 - 5. Complete structural-steel assemblies, including welding of units, before starting shop-priming operations.
- B. Thermal Cutting: Perform thermal cutting by machine to greatest extent possible.
 - 1. Plane thermally cut edges to be welded to comply with requirements in AWS D1.1/D1.1M
- C. Bolt Holes: Cut, drill, or punch standard bolt holes perpendicular to metal surfaces.
- D. Finishing: Accurately finish ends of columns and other members transmitting bearing loads.
- E. Cleaning: Clean and prepare steel surfaces that are to remain unpainted according to SSPC-SP 1, "Solvent Cleaning or SSPC-SP 2, "Hand Tool Cleaning or SSPC-SP 3, "Power Tool Cleaning.

2.6 SHOP CONNECTIONS

- A. High-Strength Bolts: Shop install high-strength bolts according to RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts" for type of bolt and type of joint specified.
 - 1. Joint Type: Snug tightened
- B. Weld Connections: Comply with AWS D1.1/D1.1M for tolerances, appearances, welding procedure specifications, weld quality, and methods used in correcting welding work.
 - 1. Assemble and weld built-up sections by methods that will maintain true alignment of axes without exceeding tolerances in AISC 303 for mill material.

2.7 SHOP PRIMING

- A. Shop prime steel surfaces except the following:
 - 1. Surfaces embedded in concrete or mortar. Extend priming of partially embedded members to a depth of 2 inches.
 - 2. Surfaces to be field welded.
 - 3. Surfaces to be high-strength bolted with slip-critical connections.



4. Surfaces to receive sprayed fire-resistive materials (applied fireproofing).
 5. Galvanized surfaces.
- B. Surface Preparation: Clean surfaces to be painted. Remove loose rust and mill scale and spatter, slag, or flux deposits. Prepare surfaces according to the following specifications and standards:
1. SSPC-SP 2, "Hand Tool Cleaning."
 2. SSPC-SP 3, "Power Tool Cleaning."
 3. SSPC-SP 7/NACE No. 4, "Brush-Off Blast Cleaning."
 4. SSPC-SP 11, "Power Tool Cleaning to Bare Metal."
 5. SSPC-SP 14/NACE No. 8, "Industrial Blast Cleaning."
 6. SSPC-SP 6/NACE No. 3, "Commercial Blast Cleaning."
 7. SSPC-SP 10/NACE No. 2, "Near-White Blast Cleaning."
 8. SSPC-SP 5/NACE No. 1, "White Metal Blast Cleaning."
 9. SSPC-SP 8, "Pickling."
- C. Priming: Immediately after surface preparation, apply primer according to manufacturer's written instructions and at rate recommended by SSPC to provide a minimum dry film thickness of 1.5 mils. Use priming methods that result in full coverage of joints, corners, edges, and exposed surfaces.
1. Stripe paint corners, crevices, bolts, welds, and sharp edges.
 2. Apply two coats of shop paint to surfaces that are inaccessible after assembly or erection. Change color of second coat to distinguish it from first.
- D. Painting: Prepare steel and apply a one-coat, nonasphaltic primer complying with SSPCPS Guide 7.00, "Painting System Guide 7.00: Guide for Selecting One-Coat Shop Painting Systems," to provide a dry film thickness of not less than 1.5 mils

2.8 GALVANIZING

- A. Hot-Dip Galvanized Finish: Apply zinc coating by the hot-dip process to structural steel according to ASTM A 123/A 123M.
1. Fill vent and drain holes that will be exposed in the finished Work unless they will function as weep holes, by plugging with zinc solder and filing off smooth.
 2. Galvanize lintels, shelf angles, and welded door frames attached to structural-steel frame and located in exterior walls.

2.9 SOURCE QUALITY CONTROL

- A. Testing Agency: The City of New York will engage an independent testing and inspecting agency to perform shop tests and inspections and prepare test reports.
1. Provide testing agency with access to places where structural-steel work is being fabricated or produced to perform tests and inspections.
- B. Correct deficiencies in Work that test reports and inspections indicate does not comply with the Contract Documents.



- C. Bolted Connections: Shop-bolted connections will be tested and inspected according to RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts."
- D. Welded Connections: In addition to visual inspection, shop-welded connections will be tested and inspected according to AWS D1.1/D1.1M and the following inspection procedures, at testing agency's option:
 - 1. Liquid Penetrant Inspection: ASTM E 165.
 - 2. Magnetic Particle Inspection: ASTM E 709; performed on root pass and on finished weld. Cracks or zones of incomplete fusion or penetration will not be accepted.
 - 3. Ultrasonic Inspection: ASTM E 164.
 - 4. Radiographic Inspection: ASTM E 94.
- E. In addition to visual inspection, shop-welded shear connectors will be tested and inspected according to requirements in AWS D1.1/D1.1M for stud welding and as follows:
 - 1. Bend tests will be performed if visual inspections reveal either a less-than-continuous 360-degree flash or welding repairs to any shear connector.
 - 2. Tests will be conducted on additional shear connectors if weld fracture occurs on shear connectors already tested, according to requirements in AWS D1.1/D1.1M.

PART 3 - EXECUTION

3.1 EXECUTION REQUIREMENTS

- A. Refer to DDC General Conditions for execution requirements.

3.2 EXAMINATION

- A. Verify, with steel Erector present, elevations of concrete- and masonry-bearing surfaces and locations of anchor rods, bearing plates, and other embedment for compliance with requirements.
 - 1. Prepare a certified survey of bearing surfaces, anchor rods, bearing plates, and other embedment showing dimensions, locations, angles, and elevations.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.3 PREPARATION

- A. Provide temporary shores, braces, and other supports during erection to keep structural steel secure, plumb, and in alignment against temporary construction loads and loads equal in intensity to design loads. Remove temporary supports when permanent structural steel, connections, and bracing are in place unless otherwise indicated.

3.4 ERECTION

- A. Set structural steel accurately in locations and to elevations indicated and according to AISC 303 and AISC 360.



- B. Base Bearing Plates: Clean concrete and masonry bearing surfaces of bond-reducing materials and roughen surfaces prior to setting plates. Clean bottom surface of plates.
 - 1. Set plates for structural members on wedges, shims, or setting nuts as required.
 - 2. Weld plate washers to top of baseplate.
 - 3. Snug-tighten anchor rods after supported members have been positioned and plumbed. Do not remove wedges or shims but, if protruding, cut off flush with edge of plate before packing with grout. Promptly pack grout solidly between bearing surfaces and plates so no voids remain. Neatly finish exposed surfaces; protect grout and allow to cure. (Comply with manufacturer's written installation instructions for shrinkage-resistant grouts).
- C. Maintain erection tolerances of structural steel within AISC's "Code of Standard Practice for Steel Buildings and Bridges."
- D. Align and adjust various members that form part of complete frame or structure before permanently fastening. Before assembly, clean bearing surfaces and other surfaces that will be in permanent contact with members. Perform necessary adjustments to compensate for discrepancies in elevations and alignment.
 - 1. Level and plumb individual members of structure.
 - 2. Make allowances for difference between temperature at time of erection and mean temperature when structure is completed and in service.
- E. Splice members only where indicated.
- F. Do not use thermal cutting during erection unless approved by the Commissioner.
- G. Do not enlarge unfair holes in members by burning or using drift pins. Ream holes that must be enlarged to admit bolts.

3.5 FIELD CONNECTIONS

- A. High-Strength Bolts: Install high-strength bolts according to RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts" for type of bolt and type of joint specified.
 - 1. Joint Type: Snug tightened
- B. Weld Connections: Comply with AWS D1.1/D1.1M and AWS D1.8/D1.8M for tolerances, appearances, welding procedure specifications, weld quality, and methods used in correcting welding work.
 - 1. Comply with AISC 303 and AISC 360 for bearing, alignment, adequacy of temporary connections, and removal of paint on surfaces adjacent to field welds.
 - 2. Remove backing bars or runoff tabs where indicated, back gouge, and grind steel smooth.
 - 3. Assemble and weld built-up sections by methods that will maintain true alignment

of axes without exceeding tolerances in AISC's "Code of Standard Practice for Steel Buildings and Bridges" for mill material.

3.6 FIELD QUALITY CONTROL

- A. Testing Agency: The City of New York will engage a qualified independent testing and inspecting agency to inspect field welds and high strength bolted connections.
- B. Bolted Connections: Bolted connections will be tested and inspected according to RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts."
- C. Welded Connections: Field welds will be visually inspected according to AWS D1.1/D1.1M.
 - 1. In addition to visual inspection, field welds will be tested and inspected according to AWS D1.1/D1.1M and the following inspection procedures, at testing agency's option:
 - a. Liquid Penetrant Inspection: ASTM E 165.
 - b. Magnetic Particle Inspection: ASTM E 709; performed on root pass and on finished weld. Cracks or zones of incomplete fusion or penetration will not be accepted.
 - c. Ultrasonic Inspection: ASTM E 164.
 - d. Radiographic Inspection: ASTM E 94.
- D. In addition to visual inspection, test and inspect field-welded shear connectors according to requirements in AWS D1.1/D1.1M for stud welding and as follows:
 - 1. Perform bend tests if visual inspections reveal either a less-than-continuous 360-degree flash or welding repairs to any shear connector.
 - 2. Conduct tests on additional shear connectors if weld fracture occurs on shear connectors already tested, according to requirements in AWS D1.1/D1.1M.
- E. Correct deficiencies in Work that test reports and inspections indicate does not comply with the Contract Documents.

3.7 REPAIRS AND PROTECTION

- A. Galvanized Surfaces: Clean areas where galvanizing is damaged or missing and repair galvanizing to comply with ASTM A 780.
- B. Touchup Painting: Immediately after erection, clean exposed areas where primer is damaged or missing and paint with the same material as used for shop painting to comply with SSPC-PA 1 for touching up shop-painted surfaces.
 - 1. Clean and prepare surfaces by SSPC-SP 2 hand-tool cleaning or SSPC-SP 3 power-tool cleaning.

END OF SECTION 051200



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SECTION 099110 PAINTING

PART 1 - GENERAL

1-1 RELATED DOCUMENTS

- A. The following documents apply to all required work for the Project: (1) the Contract Drawings, (2) the Specifications, (3) the General Conditions, (4) the Addendum and (5) the Contract (City of New York Standard Construction Contract).

1.2 SUMMARY

- A. This Section includes surface preparation and field painting of exposed interior items and surfaces.

1.3 SUBMITTALS PROCEDURES

- A. Refer to DDC General Conditions Section 01 33 00 "Submittal Procedures".

1.4 SUBMITTALS

- A. Product Data: For each product indicated.
- B. Samples: For each type of finish-coat material indicated.

1.5 QUALITY ASSURANCE

- A. Refer to DDC General Conditions Section 01 40 00 "Quality Requirements".
- B. Benchmark Samples (Mockups): Provide a full-coat benchmark finish sample for each type of coating and substrate required. Comply with procedures specified in PDCA P5.
 - 1. Small Areas and Items: Commissioner will designate items or areas required.
 - 2. Final approval of colors will be from benchmark samples.

1.6 PROJECT CONDITIONS

- A. Store materials not in use in tightly covered containers in a well-ventilated area at a minimum ambient temperature of 45 deg F. Maintain storage containers in a clean condition, free of foreign materials and residue.
- B. Apply waterborne paints only when temperatures of surfaces to be painted and surrounding air are between 50 and 90 deg F.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Products: Subject to compliance with requirements, products that may be incorporated into the Work include,
 - 1. Benjamin Moore & Co. (Benjamin Moore).
 - 2. PPG Industries, Inc. (Pittsburgh Paints).
 - 3. Sherwin-Williams Co. (Sherwin-Williams).
 - 4. Or approved equal.

2.2 PAINT MATERIALS, GENERAL

- A. Material Compatibility: Provide block fillers, primers, and finish-coat materials that are compatible with one another and with the substrates indicated under conditions of service and application, as demonstrated by manufacturer based on testing and field experience.
- B. Material Quality: Provide manufacturer's best-quality paint material of the various coating types specified that are factory formulated and recommended by manufacturer for application indicated. Paint-material containers not displaying manufacturer's product identification will not be acceptable.
- C. Colors: Match existing colors. Match existing finish.

2.3 PREPARATORY COATS

- A. Interior Primer: Interior latex-based or alkyd primer of finish coat manufacturer and recommended in writing by manufacturer for use with finish coat and on substrate indicated.
 - 1. Ferrous-Metal Substrates: Quick drying, rust-inhibitive metal primer.
 - 2. Zinc-Coated Metal Substrates: Galvanized metal primer.
 - 3. Where manufacturer does not recommend a separate primer formulation on substrate indicated, use paint specified for finish coat.

PART 3 – EXECUTION

3.1 EXECUTION REQUIREMENTS

- A. Refer to DDC General Conditions for execution requirements.

3.2 APPLICATION

- A. Examine substrates, areas, and conditions, with Applicator present, for compliance with requirements for paint application.



- B. Coordination of Work: Review other Sections in which primers are provided to ensure compatibility of the total system for various substrates. On request, furnish information on characteristics of finish materials to ensure use of compatible primers.
- C. Remove hardware and hardware accessories, plates, machined surfaces, lighting fixtures, and similar items already installed that are not to be painted. If removal is impractical or impossible because of size or weight of the item, provide surface-applied protection before surface preparation and painting.
 - 1. After completing painting operations in each space or area, reinstall items removed using workers skilled in the trades involved.
- D. Surface Preparation: Clean and prepare surfaces to be painted according to manufacturer's written instructions for each particular substrate condition and as specified.
 - 1. Provide barrier coats over incompatible primers or remove and reprime.
 - 2. Cementitious Materials: Remove efflorescence, chalk, dust, dirt, grease, oils, and release agents. Roughen as required to remove glaze. If hardeners or sealers have been used to improve curing, use mechanical methods of surface preparation.
 - 3. Ferrous Metals: Clean ungalvanized ferrous-metal surfaces that have not been shop coated; remove oil, grease, dirt, loose mill scale, and other foreign substances. Use solvent or mechanical cleaning methods that comply with SSPC's recommendations.
 - a. Blast steel surfaces clean as recommended by paint system manufacturer.
 - b. Treat bare and sandblasted or pickled clean metal with a metal treatment wash coat before priming.
 - c. Touch up bare areas and shop-applied prime coats that have been damaged. Wire- brush, clean with solvents recommended by paint manufacturer, and touch up with same primer as the shop coat.
 - 4. Galvanized Surfaces: Clean galvanized surfaces with nonpetroleum-based solvents so surface is free of oil and surface contaminants. Remove pretreatment from galvanized sheet metal fabricated from coil stock by mechanical methods.
- E. Material Preparation:
 - 1. Maintain containers used in mixing and applying paint in a clean condition, free of foreign materials and residue.
 - 2. Stir material before application to produce a mixture of uniform density. Stir as required during application. Do not stir surface film into material. If necessary, remove surface film and strain material before using.
- F. Sand lightly between each succeeding enamel or varnish coat.
- G. Scheduling Painting: Apply first coat to surfaces that have been cleaned, pretreated, or otherwise prepared for painting as soon as practicable after preparation and before subsequent surface deterioration.



1. Omit primer over metal surfaces that have been shop primed and touchup painted.
 2. If undercoats, stains, or other conditions show through final coat of paint, apply additional coats until paint film is of uniform finish, color, and appearance.
- H. Application Procedures: Apply paints and coatings by brush, roller, spray, or other applicators according to manufacturer's written instructions.
- I. Minimum Coating Thickness: Apply paint materials no thinner than manufacturer's recommended spreading rate. Provide total dry film thickness of the entire system as recommended by manufacturer.
- J. Mechanical and Electrical Work: Painting of mechanical and electrical work is limited to items exposed in equipment rooms and occupied spaces.
- K. Prime Coats: Before applying finish coats, apply a prime coat, as recommended by manufacturer, to material that is required to be painted or finished and that has not been prime coated by others. Recoat primed and sealed surfaces where evidence of suction spots or unsealed areas in first coat appears, to ensure a finish coat with no burn-through or other defects due to insufficient sealing.
- L. Pigmented (Opaque) Finishes: Completely cover surfaces as necessary to provide a smooth, opaque surface of uniform finish, color, appearance, and coverage. Cloudiness, spotting, holidays, laps, brush marks, runs, sags, ropiness, or other surface imperfections will not be acceptable.

3.3 CLEANING AND PROTECTING

- A. At the end of each workday, remove empty cans, rags, rubbish, and other discarded paint materials from Project site.
- B. Protect work of other trades, whether being painted or not, against damage from painting. Correct damage by cleaning, repairing or replacing, and repainting, as approved by Commissioner.
- C. Provide "Wet Paint" signs to protect newly painted finishes. After completing painting operations, remove temporary protective wrappings provided by others to protect their work.
1. After work of other trades is complete, touch up and restore damaged or defaced painted surfaces. Comply with procedures specified in PDCA P1.

3.4 INTERIOR PAINT SCHEDULE

- A. Gypsum Board:
1. Acrylic Finish:
 - a. Primer: Interior gypsum board primer.
 - b. Finish Coats: Interior flat acrylic two coats.



B. Plaster:

1. Acrylic Finish:

- a. Primer: Interior plaster primer.
- b. Finish Coats: Interior flat acrylic two coats.

C. Ferrous Metal:

1. Acrylic Finish:

- a. Primer: Interior ferrous-metal primer.
- b. Finish Coats: Interior semi-gloss acrylic enamel.

END OF SECTION 099110



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SECTION 142100 – HYDRAULIC ELEVATOR**PART 1 - GENERAL****1.1 RELATED DOCUMENTS**

- A. The following documents apply to all required work for the Project: (1) the Contract Drawings, (2) the Specifications, (3) the General Conditions, (4) the Addendum and (5) the Contract (City of New York Standard Construction Contract).

1.2 DESCRIPTION OF WORK

- A. This section covers and includes the furnishing and installing of passenger elevator cab finishes and controls as hereinafter described.
- B. All terms of this specification shall have their meaning defined in the American Society of Mechanical Engineers Safety Code for Elevators and Escalators A17.1 and hereinafter referred to as the ANSI A17.1 Code, including all revisions and authorized changes to date.

1.3 SUBMITTALS PROCEDURES

- A. Refer to DDC General Conditions Section 01 33 00 “Submittal Procedures”.

1.4 SUBMITTALS

- A. The elevator subcontractor shall, after structural and architectural drawings are furnished, submit complete working drawings, showing the location of all finishes, equipment, all other information necessary to render a totally functional elevator to the City of New York.
- B. The elevator subcontractor shall provide finish samples upon request.

1.5 QUALITY ASSURANCE

- A. Refer to DDC General Conditions Section 01 40 00 “Quality Requirements”.
- B. Installer Qualifications: An entity that employs installers and supervisors who are trained and approved by the manufacturer.
- C. All designs, clearances, construction, workmanship, and material, unless specifically excepted, shall be in accordance with the requirements of the ANSI code, handicap accessibility, and Americans with Disabilities Act. The ANSI A17.1 Code shall govern except where include more rigid requirements or conflict with the ANSI A17.1 Code.
- D. The elevator shall follow design and manufacturing procedures, certified in accordance with International Organization for Standardization (ISO9001-2000) to meet product and service requirements for quality assurance for new products.

PART 2 - PRODUCTS**2.1 CAB**

- A. The cab shall be 8'-0" high from finished floor to underside of canopy.



- B. Basis-of-Design Product: Subject to compliance with requirements, provide the cab walls from Ashen Ribbonwood 8839-58 or comparable product by one of the following:
 - 1. Wilsonart
 - 2. Nevamar
 - 3. Or approved equal
- C. The base, frieze and reveals will be #4 stainless steel.
- D. The ceiling shall be suspended with concealed frame finished in #8 mirror stainless steel. The lighting shall be eight LED pin downlights with trim rings and protective screens. LED edge lighting shall be installed.
 - 1. Basis-of-Design Product: Subject to compliance with requirements, provide Pin downlights from Design Plan, 200cent, #515 29 831 200 chrome or comparable product by one of the following:
 - a. Dals Lighting
 - b. Alphabet Lighting
 - c. Or approved equal
 - 2. Basis-of-Design Product: Subject to compliance with requirements, provide Edge light from Lumnii, Kilo Recessed or comparable product by one of the following:
 - a. Was Lighting
 - b. Maxim Lighting
 - c. Or approved equal
- E. Cab doors shall be flush design both sides, rib construction, finished in #4 satin stainless steel.
- F. A one speed exhaust fan shall be mounted in cab transom or canopy.
- G. A 1/2" x 2" flat in #4 stainless steel handrail shall be mounted on the rear wall.
- H. The threshold shall be extruded aluminum.
- I. Basis-of-Design Product: Subject to compliance with requirements, provide the cab finish flooring from Allstate rubber tile, Belem Color #D49 or comparable product by one of the following:
 - 1. Rubber Flooring,
 - 2. Best Step Flooring
 - 3. Or approved equal



- J. There will be 2 set(s) of quilted, soil resistant and fire-retardant pads with appropriate fasteners shall be furnished.
- K. A certificate frame shall be provided.

2.2 HOISTWAY ENTRANCES

- A. Hoistway door and frame construction shall be UL rated, with required fire rating. Doors shall be of rigid flush panel construction and contain sound-deadening material. Frames shall be securely fastened at the corners to form a unit frame. Frames shall be bolted.
- B. Exposed areas of the corridor frames shall be painted.
- C. Door interiors shall be finished in #4 satin stainless steel on all floors.
- D. Sills shall be extruded aluminum on all floors.

2.3 CAB FIXTURES

- A. The main car operating panel shall be mounted in the return and comply with handicap requirements. Pushbuttons and illuminating indications shall be included for each floor served, and emergency buttons and switches shall be provided per code. Switches for car light and accessories shall be provided.
- B. The following cab fixtures shall also be provided:
 - 1. Certificate Frame
 - 2. Digital Car Position Indicator
 - 3. Locking Service Panel in Car Operating Panel Telephone (ADA compliant)

2.4 HALL FIXTURES

- A. An up button and down button at intermediate floors and a single button at each terminal floor at a height to comply with handicap requirements.
- B. The following hall fixtures shall also be provided:
 - 1. Hall Lantern at all floors
 - 2. Restricted Access Keyed Switch at all floors.
- C. Hall Fixtures shall be finished in #4 stainless steel. Fixture cover plates shall be mounted with tamper resistant screws in the same finish as the fixture.

PART 3 - EXECUTION

3.1 EXECUTION REQUIREMENTS

- A. Refer to DDC General Conditions for execution requirements.



- 3.2 Notify Contractor in writing of any dimensional discrepancies or other conditions detrimental to the proper installation or performance of elevator work. Do not proceed with elevator installation until unsatisfactory conditions have been corrected in a manner acceptable to the Commissioner.
- 3.3 INSTALLATION OF ELEVATOR SYSTEM
 - A. Coordinate elevator work with work of other trades, for proper time and sequence to avoid construction delays.

END OF SECTION 142100



**SECTION 14 24 10 - DIRECT-ACTING IN-GROUND HYDRAULIC ELEVATOR,
CONVEYING SYSTEMS**

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The following documents apply to all required work for the Project: (1) the Contract Drawings, (2) the Specifications, (3) the General Conditions, (4) the Addendum and (5) the Contract (City of New York Standard Construction Contract).

1.2 CODES

- A. All work by the Elevator Subcontractor shall be performed under the latest applicable New York City Building Codes. Interpretation of Code and/or work to be performed shall be made by the Commissioner, and its decision shall be binding.
- B. The Elevator Subcontractor shall be responsible for all permits and filing fees that may be required, including all filing procedures and the cost of the same shall be included in this Contract.
- C. The Elevator Subcontractor shall be responsible for filing all permits, schedules and inspections and shall obtain an operating certificate with and from the appropriate authorities, in conformance with The Administrative Code of The City of New York, The Building code of the City of New York and The Electrical Code of the City of New York. Approved permit shall be in hand before commencing any work. Copies of permits and codes to be furnished to Commissioner.
- D. The elevator equipment shall be furnished and installed in accordance with the latest applicable edition of ANSI/ASME A17.1, The Administrative code of the City of New York, The Building Code of the City of New York including Appendix K, Sub-Chapters K1 and K3, The Electrical Code of the City of New York, The Americans with Disabilities Act, and ANSI A117.1.

1.3 SITE INSPECTION

- A. When a method or means of work to be performed is unclear, and an interpretation is not obtained, the Contractor shall estimate the most expensive or most extreme condition in the best interest of the Commissioner.
- B. The Contractor shall inspect the site and ascertain the existing conditions and their effect on the completion of the work as shown or specified.
- C. The Contractor shall be responsible for the exact floor-to-floor dimensional variations of the hoistway.

1.4 SUBMITTALS PROCEDURES

- A. Refer to DDC General Conditions Section 01 33 00 "Submittal Procedures".



1.5 SUBMITTALS

- A. Elevator Subcontractor shall submit sets of shop drawings for equipment layout with shaftplan, machine room plan, elevation section and all pertinent reactions. Elevator Subcontractor shall submit fixture drawings, elevator cab details, catalogs, and catalog data of new equipment to be provided. Provide layout of the machine room showing all new equipment including clearances.
- B. All submittals shall be on dates sufficiently in advance of requirements to afford Commissioner ample time for checking and no claim for extension of Contract time will be granted to the Elevator Subcontractor by reason of its failure in this request. All submittalsshall be complete and shall contain all required and detailed information.
- C. Elevator Subcontractor shall check all submittals for conformity with Contract Specifications and correct any errors, omissions, or deviations before transmittal to Commissioner. Specifications, catalogs, etc., submitted for approval shall be properly labeled indicating specific service for which material or equipment is to be used, Manufacturer's name and name of job. Catalogs, pamphlets, or other documents submitted to describe items on which approval is being required shall be specific, and the identification of each item submitted shall be clearly made in ink. Data of a general naturewill not be accepted.
- D. The Contractor shall be responsible for correct quantities, dimensions, design of adequate connections, details for satisfactory construction of all work and furnishing of materials for work required by the intent of the Contract Documents, even if not indicatedon submittals that have been approved by the Commissioner.
- E. No material shall be delivered until the Elevator Subcontractor has obtained the Commissioner's approval of the shop drawings and other data enumerated above. Should materials or equipment be delivered before required approval, the Elevator Subcontractor shall be liable for its removal and replacement at no charge, if in the opinion of the Commissioner the material or equipment does not meet the intent of this document.
- F. By approving and submitting Shop Drawings and Samples, the Elevator Subcontractor thereby represents that it has determined and verified all field measurements, field construction criteria, materials, catalog numbers and similar data, or will do so, and that ithas checked and coordinated the Shop Drawings and Samples with the requirements of thework of the Contract Documents.
- G. Submit shop drawings showing all details, of the following:
 - 1. Car push button station.
 - 2. Hall push button stations.
 - 3. Position indicators.
 - 4. Directional indicators.



5. Cab details.
 6. Interlock details.
 7. Limit switch details.
 8. Door operator details.
 9. Door closer details.
 10. Car top inspection station details.
 11. Pit switch details.
- H. Prior to the final acceptance of the work of this Section, submit four (4) copies of the following bound manual to the Commissioner for review:
1. Operating Instructions: Printed or typewritten literature describing the function and operation of all controls.
 2. Maintenance Instructions: Printed or typewritten schedules of all required maintenance procedures.
 3. Wiring Diagrams: full size, ladder type, complete, 'as-built' wiring and single line diagrams showing the electrical connections, functions, and sequence of operation of apparatus connected with the elevator, both in the machine room and in the hoistway, shall be furnished in duplicate for each elevator at the time of final inspection and acceptance. One set shall be placed in the elevator machine room. The other set shall be delivered to Commissioner. Coded diagrams are not acceptable.
- I. Deliver to the Commissioner at least six (6) tagged pieces of each different key used to lock control cabinets, operate switches in the car station, and other lockable devices.
- J. The Elevator Subcontractor shall submit, in writing the following information to the Commissioner throughout the construction period:
1. A completion schedule, including equipment delivery times and anticipated completion dates.
 2. A progress report with each submission of payment request, to the Commissioner, showing the progress being made and the percentage of the job completed and shall certify to the Commissioner that the labor and materials listed on the request for payment have been performed or installed.
- K. The Elevator Subcontractor shall furnish four (4) sets of neatly bound instructions giving the method of control and operation together with data on all switches, relays and other devices for servicing and ordering replacements.
- 1.6 STORAGE OF MATERIALS
- A. Elevator Subcontractor shall confine storage of materials on job site to limits approved



by the Commissioner and shall not unnecessarily encumber the premises or overload any portion with materials to a greater extent than the structural design load.

1.7 REMOVAL OF EQUIPMENT AND RUBBISH

- A. The Elevator Subcontractor shall remove all rubbish as fast as it accumulates, keeping the building and premises clean during the progress of the work and leave the premises at completion in perfect condition as far as its work is concerned to the Commissioner's complete satisfaction.

1.8 PAINTING AND FINISHES

- A. All equipment and metal work installed or re-used under this contract which does not have a baked enamel finish or special architectural finish, and which is exposed in the hoistway shall be cleaned and painted one field coat of black metal enamel.
- B. All machine room equipment shall be painted upon completion of the installation with the manufacturer's standard machinery enamel in dark blue, gray, or dark green.
- C. All-natural metals shall be of the best grade and shall have the grain of belting in the direction of the longest dimensions with a fine, brushed finish. All surfaces shall be perfectly smooth and without waves.
- D. Any baked enamel finish, new or existing, damaged by the Elevator Subcontractor during the construction, shall be replaced with new of the same color.

1.9 RIGGING

- A. The Elevator Subcontractor is responsible for the delivery and mounting of all equipment. The Elevator Subcontractor shall bear the cost of all expenses involved in moving and rigging. Any damage to the building shall be corrected by the Elevator Subcontractor at its expense to the satisfaction of the Commissioner.

1.10 BARRICADES

- A. The Elevator Subcontractor shall provide barricades, when necessary, to protect the entire height and width of the hoistway opening at every floor. Under no circumstances shall any hoistway opening be left unguarded or accessible to any unauthorized persons.

1.11 CUTTING AND PATCHING

- A. The Elevator Subcontractor shall perform all cutting and patching required for the installation of work as indicated on the plans and as specified in these Specifications.
- B. The Elevator Subcontractor shall be responsible for cutting lobby marble, tile, or glass as necessary for the new fixtures to be installed.
- C. All cuttings shall be patched and smoothed and ready for paint.

1.12 SCOPE

- A. Provide all labor, materials, and equipment necessary to perform all operations, methods



and related work specified herein and/or indicated on the drawings, complete as described.

1. Modernize one (1) passenger elevator in the building in accordance with these Specifications including a new, controller, door equipment, pushbuttons, rupturevalve, scavenger pump, and all work as specified in Part 2 of this section.

1.13 PERMITS, TESTS

- A. File drawings for approval of City of New York Department of Buildings, Elevator Division.
- B. Obtain and arrange for inspection and pay fees in connection therewith, which may be required for the execution of all work. Originals of all permits: forwarded to Commissioner. Permit shall be issued before commencing any work.
- C. Perform all tests required by the Building Code of the City of New York, Chapter 30, and Appendix K. Tests shall be made in the presence of Commissioner.
- D. Full Load Test: The elevator shall be subjected to a test for a period of one half (1/2) hour continuous run, with full, specified rated load in the car. During the test run, the car shall bestopped at all floors in both directions of travel for a standing period ten (10) seconds per floor. The full load working pressure shall be determined and shall be permanently and legibly indicated on the hydraulic power unit.
- E. Speed Test: The actual speed of each elevator car shall be determined in both directions of travel and with full contract load and with no load in the elevator.
- F. Relief Valve Test for Hydraulic Elevators: Determine the actual working pressure and setthe relief within the range specified in ASME A17.1 Safety Code for Elevators and Escalators.
- G. Firemen Service Test: The Firefighter's Service shall be tested both with the Phase I and II key switches and recall initiated by the smoke detectors.

PART 2 - PRODUCTS

2.1 EQUIPMENT DEVICES

- A. In all cases where a device or part of the equipment is herein referred to in the singular number, it is intended that such reference shall apply to as many such devices as are required to complete the installation.
- B. The elevator is designated as follows:
 1. Existing Automatic Passenger Elevator at 137-35 Northern Boulevard, Flushing, NY:
 - a. Passenger Elevator, NY City # 4P10235 to be modernized.

2.2 EQUIPMENT FOR DIRECT-ACTING HYDRAULIC PASSENGER ELEVATOR.

- A. Direct-Acting, In-Ground, Hydraulic Passenger Elevator:



1.	HOISTWAY	Existing
2.	GUIDE RAILS	Retain, reuse existing
3.	CAR SPEED	100 ft. per minute up
4.	CAPACITY	3,000 lbs.
5.	NUMBER OF STOPS	5 (B, L, 1 - 3) front & rear entrances on cab, but each floor is one or the other
6.	POWER SUPPLY	Existing, 208Vac, 3Phase, 60Hz.
7.	HYDRAULIC POWER UNIT	Retain and reuse existing.
8.	MACHINE, DIRECT-ACTING HYDRAULIC PISTON	Retain existing in- ground. Replace cylinder head packing
9.	RUPTURE (OVER-SPEED) VALVE	New
10.	BUFFERS	Springs, retain.
11.	CAR FRAME and PLATFORM	Retain
12.	CAR GUIDES	New roller guides (ELSCO)
13.	CONTROLS	New, micro-processor based solid state, Simplex, hydraulic with Firefighter's Service.
14.	EMERGENCY BATTERY LOWERING	New
15.	MACHINERY ROOM LOCATION	Bsmt, adjacent to hoistway
16.	HOISTWAY ENTRANCES	Retain existing single- slide.
17.	DOOR OPERATORS	New. As indicated in article 2.38.
18.	INTERLOCKS	New. As indicated in article 2.38.
19.	CAR DOOR HANGERS/ROLLERS	New. As indicated in article 2.38.
20.	HOISTWAY DOOR CLOSERS	New. Sill mounted spring type. As indicated in article 2.38.
21.	HOISTWAY DOOR TRACKS/ HANGERS	New. As indicated in article 2.38.



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|-----|-----------------------------------|---|
| 22. | TELEPHONE/INTERCOM | New hands free, auto dial. |
| 23. | CAR POSITION INDICATORS | New digital type |
| 24. | HALL POSITION INDICATOR | New digital type in all hall stations (provide blank plate for indicator at 1st floor). |
| 25. | CAR AND HALL PUSH-BUTTON FIXTURES | New stainless steel, with car-call lockout key-switches |
| 26. | DIRECTIONAL INDICATORS | New, in car |
| 27. | CAB | New |
| 28. | INFRARED CURTAIN UNITS | New |
| 29. | HOISTWAY LIMITS | New |
| 30. | HOISTWAY WIRING | New |
| 31. | TRAVELING CABLES | New |
| 32. | EMERGENCY LIGHTING | New |
| 33. | FIREFIGHTER'S SERVICE | New |
| 34. | PIT STOP SWITCH | New |
| 35. | TOP and BOTTOM OF CAR WORK LIGHTS | New |
| 36. | TOP OF CAR OPERATING DEVICE | New |
| 37. | HOISTWAY ACCESS | New |

2.3 HOISTWAY

- A. The elevator shall be installed in the existing hoistway.
- B. Hoistway shall be completely cleaned down upon completion of all work.

2.4 MACHINERY ROOM

- A. The Elevator Subcontractor shall install the new equipment in the existing machinery room in the basement.
- B. Paint the machinery room floor with one coat of gloss gray floor and deck enamel.



2.5 CONTROLLER

- A. The elevator shall be provided with a controller located in the machinery room. The elevator controller shall be housed in a totally enclosed, wall mounted, cabinet. Hinged doors shall be provided for access to front and rear of panels. Doors shall be of pan type and shall have not less than $\frac{3}{4}$ inch deep-formed edges to assure stiffness.
- B. The controller switches and other equipment shall be mounted on panels of proper thickness to resist the weight and vibration. The panels shall be securely mounted on substantial self-supporting steel frames. The controller switches may be mounted on the panel.
- C. The elevator controller shall utilize a micro-processor-based logic system and shall comply with ASME A17.1 safety code for elevators. The system shall provide comprehensive means to access the computer memory for elevator diagnostic purposes and shall have permanent indicators to indicate important elevator statuses as an integral part of the controller.
- D. Failure of any single magnetically operated switch, contactor, or relay to release in the intended manner or the occurrence of a single accidental ground or short circuit shall not permit the car to start of run if any hoistway door or gate interlock is unlocked or if any hoistway door or car door or gate contact is not in the made position. Furthermore, while oncar top inspection, failure of any single magnetically operated switch, contactor, or relay to release in the intended manner or the occurrence of a single accidental ground shall not permit the car to move even with the hoistway door locks and car door contact in the closed or made position.
- E. The elevator shall not require the functioning or presence of micro-processor to operate oncar top inspection or hoistway access operation to provide a reliable means to move the car if the micro-processor fails.
- F. A motor limit time function shall be provided which, in the event of the pump motor being energized longer than a predetermined time, shall cause the car to descend to the lowest landing, open the doors automatically and then re-close them. The car call shall then be canceled, and the car taken out of service automatically. Operation may be restored by cycling the power disconnect switch or putting the car on access or inspection operation.
- G. A valve limit timer shall be provided which shall automatically cut off current to the valve solenoids if they have been energized longer than a predetermined time. The car calls shall then be canceled, and the car taken out of service automatically. Operation may be restored by cycling the power disconnect switch or putting the car on access or inspection operation.
- H. Door protection timers shall be provided for both the open and close directions which will help protect the door motor and which will help prevent the car from getting stuck at a landing. The door open protection timer shall cease attempting to open the door after a predetermined time in the event that the doors are prevented from reaching the open position. The door close protection timer will reopen the doors for a short time if the door closing attempts fails to make up the door locks after a predetermined time.



- I. A minimum of three different door standing open times shall be provided. A car call time value shall predominate when a car call only is canceled. A hall call time value shall predominate whenever a hall call is canceled. In the event of a door reopen from the safety edge, photo eye, or door open button, a separate short door time value shall predominate. The timing value for these timers must be field adjustable.
- J. Optionally, if the doors are prevented from closing for longer than a predetermined time, door-nudging operation shall cause the doors to move at slow speed in the close direction and to be unresponsive to the photo eye. The safety edge shall stop the door but not reverse it. Optionally, the safety edge may operate normally during nudging operation. A buzzer shall sound while nudging operation is active.
- K. The controller shall be equipped with “CAR DOOR BYPASS” and “HOISTWAY DOORBYPASS” switches that shall prepare the control system so that, when inspection operation is activated, the car shall be permitted to be moved with open door contacts. The switches and operation shall conform to the requirements of the ASME A17.1 Safety Code for Elevators and Escalators. The switch positions shall be clearly labeled “BYPASS” and “OFF.” Switch contacts shall be positively opened mechanically when switching to either position, and their opening shall not be solely dependent on springs.
- L. Independent service operation shall be provided such that actuation of key switch in the car-operating panel will cancel any existing car calls and hold the doors open at the landing. The car will then respond only to car calls and will ignore hall calls. Car and hoistway door will only close by constant pressure on car call buttons or a door close button until the car starts to move. While on independent service, hall arrival lanterns or jamb mounted arrival lanterns and gongs shall be inoperative. The car shall be equipped with two-way leveling to automatically bring the car within plus or minus ¼” of floor level at any landing regardless of load.
- M. The controller shall be equipped with a means to monitor the position of the car doors that are mechanically coupled with the hoistway doors while the car is in the landing zone in order to prevent the operation of the car if the car door is not closed, regardless of whether the portion of the circuits incorporating the car door contact or the interlock contact of the hoistway door coupled with the car door, or both, are closed or open except as permitted during hoistway access operation, firemen service phase two, or during inspection operation with doors bypassed with the bypass switches and to prevent (except as permitted during inspection operation with open door circuits) the power closing of the doors if the car door is fully open and any of the following conditions exist:
 - 1. The car-door contact is closed or the portion of the circuit, incorporating this contact is bypassed.
 - 2. The interlock contact of the landing door that is coupled to the open car door is closed or the portion of the circuit, incorporating this contact is bypassed; and
 - 3. The car-door contact and the interlock contact of the door that is coupled to the open car door are closed, or the portions of the circuits incorporating these contacts are bypassed.
- N. The operation of the Elevator shall be of the simplex collective selective type. The operation equipment shall consist of a series of pushbuttons in each car numbered to



correspond with the controller switches governing floor selection, direction of travel, acceleration, and retardation to supply the operation described below.

1. Operation of the elevator will be of the two-button, full collective type. At each of the intermediate landings an “UP” and “DOWN” push-button station will be furnished. Single push button stations will be furnished at terminal landings. A series of push buttons numbered to correspond to the various landing will be provided in the car-operating panel. Calls registered from the car push buttons will be answered in succession as they are reached in the direction of car travel irrespective of the sequence in which the calls are registered. “UP” hall calls will be answered in succession as the car ascends only and “DOWN” hall calls as the car descends. The car will always proceed to the furthest car or hall call in the direction it is traveling before reversing to the opposite direction. If no car buttons are pressed and the car starts in the “UP” direction in response to several “DOWN” calls, “UP” hall calls will be answered in a similar fashion.
- O. The control system shall be positively connected to an earth ground.
- P. Car controller shall be manufactured as indicated in article 2.38.

2.6 SELECTOR

- A. The elevator shall be provided with a selector landing control system designed to provide the acceleration and deceleration characteristics specified herein and designed to automatically bring the car platform level with each landing. Accuracy of leveling shall not exceed $\frac{1}{4}$ ” in either direction. This floor finding device shall automatically correct over travel as well as under travel of the car at each landing.

2.7 HYDRAULIC SYSTEM, DRIVING MACHINE AND POWER UNIT

- A. Retain and reuse the existing new hydraulic power unit.
 1. Upon completion of the modernization work determine the full load working pressure and legibly and permanently mark it on a marking plate mounted on the power unit assembly.
 2. Pipe Supports: Piping shall be so supported as to eliminate undue stresses at joints and fittings, particularly at any section of the line subject to vibration. Pipe supports shall conform the requirements for seismic risk zone 2 or greater.
- B. Safety Valve (rupture valve): A safety valve shall be provided and shall be so installed that it will stop and hold the elevator car with rated load at any point when the maintained pressure drops below the minimum operating pressure.
 1. The valve shall be located in the pit as close as possible to the cylinder inlet/outlet and in the oil supply line to the cylinder.
 2. The valve shall be of the pressure sensitive mechanical type and shall not be electrically operated. It shall be actuated by an oil flow rate not greater than 125% of the oil flow rate required to produce the operating speed in the down direction.



- C. Control Valve: The existing control valve shall be retained and reused.
- D. Drain the system of all hydraulic fluid. Upon completion of installation fill the system with fresh hydraulic fluid of the type recommended by the original manufacturer.

2.8 AUTOMATIC OIL RETURN SYSTEM

- A. An automatic oil return system shall be provided capable of pumping 100 ft. of head or 200ft. of run. A 3 ½-gallon polyethylene reservoir shall be provided and covered with a clear lid. ½ inch O.D. copper tubing shall be utilized to return oil to system tank. All tubing shall be properly tied down or supported. Pump shall have a 100-micron filter.

2.9 AUTOMATIC (EMERGENCY) LOWERING

- A. Furnish and install a battery-operated system designed to open the down solenoid on the control valve to lower the car to the first floor upon loss of power. The system must be designed to permit the normal opening of the main-line switch without triggering the automatic lowering.

2.10 CAR FRAME AND PLATFORM

- A. Retain and reuse the car frame and platform.
- B. Paint the underside of the car platform with a rust inhibiting enamel in black or dark gray

2.11 BUFFERS

- A. Retain and reuse the existing spring buffers.
- B. Buffers, buffer stands, strike plates, strike plate extensions, and pit mounting channel shall be painted with one coat of gray machinery grade enamel.

2.12 HOISTWAY DOORS AND FRAMES

- A. Retain and reuse all hoistway doors and frames. Protect where necessary, from being damaged during installation of new work.
- B. Each hoistway door panel shall have, in addition to the two bottom guides a third “safety” guide (Z – bracket) installed at center. This guide shall be stainless steel, at least eight (8) inches wide, and be designed to keep the door panel in the bottom track should the normal guides become loose or missing.
- C. Number the hoistway side of each hoistway door with the corresponding floor number. Numbers to be four (4) inches high. Numbers may be either “peel and stick” type or “painted and stenciled”.

2.13 INTERLOCKS, CONTACTS AND UNLOCKING DEVICES

- A. Each elevator hoistway door shall be equipped with an approved hoistway door interlock. The interlock shall prevent the operation of the elevator driving machine by the normal operating device unless the hoistway door is locked in the closed position (as defined by the ASME A17.1 Code), except when the car is in the landing zone and is



either stopped or being stopped. The interlocks shall also prevent the opening of a hoistway door from the landing side unless the car is within the landing zone and is either stopped or being stopped at that level. A new car door clutch, of the safety type, with a zone lock, shall be provided. Interlocks shall be so located that they are not accessible from the landing side when the hoistway doors are closed.

- B. The elevator car door shall be equipped with an approved electric contact that will prevent the operation of the elevator driving machine by the normal operating device unless the car door is in the closed position (as defined by the ASNI Code) except when the car is in the landing zone and is either stopped or being stopped. Car door contacts shall be so located that they are not readily accessible from the inside of the car.
- C. Car top emergency exit shall be equipped with a lock on the outside of the cab conforming to the requirements herein specified. The switch shall not be self-resetting.
- D. Hoistway door unlocking devices shall be provided on all floors and shall be of the type specified by the manufacturer.
- E. All hoistway interlocks, contacts and unlocking devices shall have met all applicable functional and engineering tests required by the ASME A17.1 Code and all such equipment shall have been specified by a competent approved laboratory. Results of these tests shall be available upon request.
- F. All interlocks, gate switches, and door components shall be manufactured as indicated in article 2.38.

2.14 HOISTWAY DOOR TRACKS/HANGERS

- A. The door hangers shall be of the sheave type suitable for the type of door operation specified. There shall be two (2) hangers per panel. The sheave wheels shall rotate on a grease-packed precision ball bearing. The up thrust shall be taken by a roller mounted on a hanger and arranged to ride on the underside of the track. The roller shall be mounted on an eccentric stud to provide adjustment. Each hanger assembly shall include steel safety retainers designed to keep the door on its track should the normal retaining means fail, and to prevent forced upward displacement of the door.
- B. The hanger track shall be of formed cold rolled steel or of cold drawn steel and shall be rounded on the track surface to receive the hanger sheave. The sheave wheels or the hanger track shall be provided with a suitable sound reducing material to eliminate metal contact.

2.15 HOISTWAY DOOR CLOSERS

- A. Hoistway door closers shall be provided that shall close the hoistway door without the application of any outside force.
- B. Hoistway door closers shall be of the reel type.

2.16 FIREMEN SERVICE

- A. Phase I Emergency Recall Operation: A two-position, key-operated switch shall be provided at the first floor for the elevator. The two-position switch shall be marked



“NORMAL” and “FIREMEN SERVICE.”

- B. The two-position switch shall be in the first-floor call button fixture and shall not be located behind a locked door or cover. All keys shall be removable from any position. No device, other than the Phase I switch, or the smoke detectors in the elevator lobbies and machinery room, shall initiate Phase I Operation.
- C. Normal elevator service shall be provided when the Phase I switch is in the “NORMAL” position. When a switch is in the “FIREMEN SERVICE” position:
1. All cars controlled by this switch that are on automatic service shall return nonstop to the first floor and power operated doors shall open and remain open.
 2. A car traveling away from the first floor shall reverse at or before the next available landing without opening its doors.
 3. A car stopped at a landing shall have the in-car emergency stop switch rendered inoperative as soon as the car moves away from the landing. A moving car shall have the in-car emergency stop switch rendered inoperative without delay. Once the in-car emergency stop switch has been rendered inoperative, it shall remain inoperative while the car is on Phase I Operation. All other stop switches shall remain operative.
 4. A car standing at a level other than the first floor, with the doors open and the emergency stop switch in the “run” position shall close its door without delay and proceed to the first floor.
 5. Door reopening devices for the power-operated doors that are sensitive to smoke or flame shall be rendered inoperative without delay. Door reopening devices not sensitive to smoke or flame (e.g., mechanically operated devices) are permitted to remain operative.
 6. All car and corridor call buttons shall be rendered inoperative. All call registered lights and directional lanterns shall be extinguished and remain inoperative. Position indicators where provided, shall remain in service.
 7. All cars shall be provided with an illuminated visual and audible signal system, which shall be activated to alert the passengers that the car is returning nonstop to the first floor. The signals shall remain activated until the car has returned to the first floor.
 8. A car stopped at a landing shall have the in-car door-open button rendered inoperative as soon as the car moves away from the landing. A moving car shall have the in-car door-open button rendered inoperative without delay. Once the in-car door-open button has been rendered inoperative, it shall remain inoperative until the car has returned to the first floor.
- D. Phase II Emergency In-Car Operation: A three-position (“NORMAL,” “HOLD” and “FIREMEN SERVICE,” in that order) key-operated switch shall be provided in the operating panel in the car. It shall become effective only when the first floor Phase I switch is in the “FIREMEN SERVICE” position or when the elevators have returned to



the first floor due to activation of the smoke detectors. The key shall be removable in the “NORMAL” or “HOLD” positions. The “NORMAL,” “HOLD” and “FIREMEN SERVICE” positions shall not change the operation until the car is at a landing with the doors in the normal open position.

1. When the Phase II switch is in the “FIREMEN SERVICE” position, the elevator shall be on Phase II Operation and the elevator shall operate as follows:
 - a. The elevator shall be operable only by a person in the car.
 - b. All corridor call buttons, and directional lanterns shall remain inoperative.
 - c. The opening of power-operated doors shall be controlled only by a continuous pressure door-open button. If the button is released prior to the doors reaching the normal open position, the doors shall automatically re-close.
 - d. Open power-operated doors shall be closed only by momentary pressure on the door close button.
 - e. All door reopening devices shall be rendered inoperative. Full speed closing is permitted.
 - f. Every car shall be provided with a button marked “CALL CANCEL,” located in the same car-operating panel as the Phase II switch, which shall be effective during Phase II operation. When activated, all registered calls shall be canceled, and a traveling car shall stop at or before the next available landing.
 - g. Floor selection buttons shall be provided in the car to permit travel to all landings served by the car. Means that prevent the operation of the floor selection buttons or door-operating buttons shall be rendered inoperative.
 - h. A traveling car shall stop at the next available landing for which a car-call was registered. When a car stops at a landing, all registered car calls shall be canceled.
 - i. The emergency stop switch shall remain inoperative.
2. When the Phase II switch is in the “HOLD” position, the elevator shall be on Phase II Operation. The car shall remain at the landing with its doors open. The door-close button shall be inoperative.
3. When the Phase II switch is in the “NORMAL” position, the elevator is not at the first floor and Phase I Operation is in effect, the car shall revert to Phase I Operation upon completion of door closing.
4. When the Phase II switch is in the “NORMAL” position and the car is not at the first floor and Phase I is not in effect, the car shall remain at the landing with



the doors open and door-close button inoperative and shall remain in Phase II.

5. Elevators shall only be removed from Phase II Operation when:
 - a. The Phase II switch is in the “NORMAL” position and the car is at the firstfloor with the doors in the open position: or
 - b. The Phase II switch is in the “NORMAL” position when Phase I is in effect.
- E. The control system shall be connected to a single smoke detector located at the top of the hoistway that shall initiate Phase I recall when activated. The elevator shall operate as described above. The smoke detector shall not be self-resetting.

2.17 NORMAL AND FINAL TERMINAL STOPPING DEVICES

- A. Normal and final terminal stopping devices shall be provided for the elevator and conforming with ANSI/ASME A17.1 Code requirements. Terminal stopping devices located in the hoistway or on the car and operated by cams shall be fitted with rollers having a rubber or other approved composition tread to provide practically silent operation when actuated by the cam.
- B. Upper and lower normal terminal stopping devices shall be provided and arranged to stop the car automatically from any speed obtained under normal operation within the top and bottom over travels independent of the operating device, final terminal stopping device and the buffers.
- C. Final terminal stopping devices may be provided and arranged to stop the car and counterweight automatically from the speed specified within the top clearance and bottom over travel independent of the operation of the normal terminal stopping device but with the buffers operative. When the final terminal stopping devices operate, normal operation in either direction shall be prevented.

2.18 HALL PUSH BUTTON STATIONS

- A. The elevator shall be provided with new hall push-button stations. Each fixture shall meetthe following specifications:
 1. Provide up and down buttons at intermediate landings and single button at terminal landings.
 2. Provide call-registered light for all buttons.
 3. Provide Fire Department key switch and indicator in the first-floor push buttons station.
 4. The centerline of the hall push-button stations shall be forty-two (42) inches above the finished floor.
 5. Station faceplate shall be of brushed stainless steel.
 6. Push buttons shall be round and of metal or plastic and shall either illuminate



for call acknowledgement or contain a jewel at center that shall illuminate for call acknowledgment.

7. Each push button station shall contain a digital segmented, LED position indicator.

2.19 CAR OPERATING PANEL

A. Car operation panels shall be of brushed stainless steel and contain round, metal or plastic buttons and shall match the hall buttons. The fixture shall contain the following devices and be in compliance with ADA audio-visual signals:

1. Floor buttons corresponding to the floors served. Buttons shall be of the illuminating type: pressure on the button shall cause a jewel at its center to become illuminated. Buttons shall be round and match the hall buttons. Appropriate Braille markings and raised characters shall be included.
2. Key-operated independent service switch.
3. Key-operated light/fan switch.
4. Access Enable key-switch.
5. Car-call lock-out key switches. Each switch shall be keyed differently. Provide six (6) keys per switch and two (2) master keys that can operate any switch.
6. Firemen Service call cancel button.
7. Emergency alarm button, with acknowledgment light.
8. Emergency stop switch of the “push – pull” type.
9. Door open and close buttons.
10. Firemen Service key-operated switch.
11. Capacity of elevator and “No Smoking” signs shall be engraved in car station cover. The capacity shall be indicated with ½” high black filled characters. “No Smoking” shall be indicated with 5/8” high black filled characters. The words “NYC Elevator No.4P10235” shall be engraved in the car station cover with ½ inch high, black filled letters.
12. Emergency lighting fixture shall be incorporated into the car station.
13. A digital segmented, LED position indicator shall be incorporated into the station. Include audio floor passing chime.
14. Hands free, auto dial telephone (with auto-answer feature) shall be incorporated into the car station. Pressure on the “Emergency Call” button shall automatically dial a pre-programmed telephone number. Include acknowledgment light and operating instructions with Braille. An intercom between the car and the machinery room shall also be provided.



- B. A duplex, 120 Vac, 20 Amp., G.F.C.I. protected utility outlet shall be included in the car operating panel under a locked cover (service compartment containing the Independent, Access Enable, and Light/Fan key-switches)

2.20 HOISTWAY ACCESS SWITCHES

- A. Furnish and install at the top and bottom landings hoistway access key-operated switches. Switches shall be of the spring-return type and shall be operated by a cylinder type lock having not less than a five-pin or five-disk combination, with the key removable only when the switch is in the “OFF” position.
- B. The electric contacts in the switch shall be positively opened mechanically; their openings shall not be solely dependent on springs.
- C. The operation of the switch shall permit the movement of the car with the hoistway door at that landing unlocked or not in the closed position, and with the car door or gate not in the closed position.
- D. The operation of the switch shall not render ineffective the hoistway door interlock or electric contact at any other landing, nor shall the car move if any other hoistway door is unlocked.
- E. The car shall not be operated at a speed greater than 100 feet per minute when on hoistway access.
- F. Car and landing pushbuttons shall first be made inoperative by a key-operated switch in the car push-button station that shall also enable the hoistway access switch.
- G. The access switch at the lowest landing shall permit the upward travel of the car to a point where the bottom of the platform guard (toe guard) is even with the hoistway door header and no more.

2.21 DIRECTION LANTERNS

- A. Provide two (2) new directional indicators mounted on the strike jambs of the car doors. A single stroke bell shall be included to sound once for the “UP” direction of travel and twice for the “DOWN” direction of travel. The back plate shall be of brushed stainless steel. The up arrow shall illuminate white, and the down arrow shall illuminate red.

2.22 HALL POSITION INDICATORS

- A. Digital segmented, LED position indicators shall be installed in the hall push button fixtures on each floor. In the car, the indicator shall be installed in the car push-button fixture.
- B. At the first floor remove the existing position indicator and provide a blank plate of type 304 stainless steel having a No. 4 brushed finish.

2.23 CAB ENCLOSURE

- A. Replace the Cab Enclosure as per the drawings:



1. Elevator Subcontractor shall be responsible for a complete installation including, wall panels, floor, ceiling, fan, and lighting.
 2. Sills shall be factory polished nickel-silver.
 3. Provide a certificate frame and corner mirror.
 - a. Mirror or glass to be of laminated glass complying with the requirements of 16 CFR part 1201, Sections 1201.1 and 1201.2, or be of tempered glass provided that it conforms to ANSI Z97.1, 16 CFR Part 1201, Sections 1201.1 and 1201.2, or CAN/CGSB-12.1, whichever is applicable. Glass shall be bonded to a nonpolymeric coating, sheeting or film backing having a physical integrity to hold the fragments when the glass breaks. Glass shall be tested and conform to the acceptance criteria for laminated glass as specified in ANSI Z97.1, or 16 CFR Part 1201, Section 1201.4, or CAN/CGSB-12.11, whichever is applicable. Markings specified in the applicable glazing standard shall be on each separate piece and shall remain visible after installation.
 4. Provide hooks for protective pads and one set of custom protective pads.
 5. The new exhaust fan shall be a high capacity, heavy duty blower, 3-speed. The fan shall have a solid top to prevent the blades from stalling. The maximum output at top speed shall be 400 CFM, with the middle speed output at 360 CFM. Provide neoprene vibration isolation. provide products by the following manufacturers:
 - a. Nylube Products Company, LLC.
 - b. Man-D-Tec, Inc.
 - c. Quality Elevator products.
 - d. Or approved equal.
 6. Include provisions for CCTV cameras and coordination with the Commissioner.
- B. The Elevator Subcontractor shall field verify all dimensions and shall prepare and submit complete, detailed shop drawings for approval.

2.24 CAR AND HOISTWAY DOOR OPERATORS

- A. Elevator shall be equipped with two (2) new approved motor-driven, electric, heavy duty door operators to open and close the car doors when the car is at the landing. Doors shall be cushioned or checked at both limits of travel and shall operate without slamming. Retractable zone-lock safety clutches with restrictors shall be provided.

2.25 DOOR REOPENING DEVICES

- A. Furnish and install two (2) new infrared curtain units on the car doors to automatically stop and reopen the closing car and hoistway doors whenever a person or object crosses the threshold. Physical contact with the edge shall not be required to initiate reopening.



2.26 TOP OF CAR OPERATING DEVICE

- A. An inspection and maintenance station shall be mounted on top of the elevator car. This station shall contain up and down direction buttons, a center run button and an emergency stop button. This station shall be fixed to the car crosshead. The car shall be operated by constant pressure on the appropriate directional button and run button. Provisions shall be made to make the normal operating devices inoperative while this device is in use. Transfer from automatic to car top inspection operation shall be from the car top. Station shall contain a Firefighter's Service indicator and buzzer.

2.27 GUIDE SHOES

- A. Furnish and install new spring-loaded roller guides on the car.

2.28 RAILS, INSERTS AND BRAKETS

- A. Retain and reuse the existing car guide rails.
- B. Properly align the rails, adjust, and tighten fishplates, ensure that all joints are ground smooth. Check all rail brackets and ensure that all are secure. Replace brackets, clips, and other parts as required for perfectly aligned and smooth rails and a smooth and quiet ride.

2.29 PIT STOP SWITCH

- A. Furnish and install a pit stop switch. The pit stop switch shall be located eighteen (18") inches above the level of the first floor and adjacent to the pit access ladder. The stop switch shall be red and labeled "STOP" and "RUN." Placing the switch in the "STOP" position shall remove power from the driving machine and valve solenoids causing the elevator to stop. Switch shall be of the push-pull type.

2.30 WORK LIGHTS

- A. Provide work lights with wire guards on car top, and bottom. Provide a light switch on the car top, and a duplex, 120 VAC, 15 Amp, G.F.C.I. utility outlet.

2.31 ALARM BELLS

- A. Furnish and install an alarm system including one bell located on the underside of the car and one located adjacent to the hoistway at the basement. Alarm bell must produce at least 90 Db 10 feet from the bell.

2.32 PIT LADDER

- A. Retain and reuse the existing pit ladder for the elevator. Paint the ladder one coat of primer and one coat of standard enamel in OSHA safety yellow.

2.33 TRAVELING CABLES

- A. Provide new traveling cables made of flexible, insulated wires. The cables should be protected with a moisture proof undercover. There should be at least 10% spare conductors after completion. Include coaxial and shielded wires for cab television



camera and communications wire for cab telephone. Include shielded and data transmission cables for future use.

2.34 WIRING AND CONDUIT

- A. All new wiring for the proper operation of the equipment shall be installed by the Elevator Subcontractor.
- B. Traveling cables:
 - 1. Traveling cables shall be so suspended anchored and run that the strain of individual cable conductors will be reduced to a minimum connection to terminal blocks will be free from all strain, and the cables will always be free from contact with the hoistway construction, car, or other equipment.
 - 2. The outer cable covering must remain intact between junction boxes, and abrupt bending of the cable producing distortion will not be permitted. Traveling cables shall be of the best grade possible for this type of service.
 - 3. They must be hung so that the proper size loop is obtained. The outer braid shall be fire resistant and meet the Underwriters standard test. Ten (10%) percent spares shall be mounted in all traveling cables.
- C. All conductors shall be run in rigid steel conduit or metal wireways or EMT and shall be installed in an orderly manner. Flexible metal conduit may be used for short runs between such equipment as risers and limit switches, interlocks, push button boxes, etc., and between controllers and machine motors, machine brakes and motor generator sets.
- D. All wire and cable shall be copper.
- E. The conductors to the hoistway door interlocks from the hoistway riser shall be flame-retardant and suitable for a temperature of not less than 200° C. Conductors shall be type SF or equivalent.
- F. The audible (alarm) signaling device and the telephone shall automatically transfer to a source of standby (emergency) power within ten (10) seconds after the normal power supply fails. The power source shall be capable of providing for the operation of the audible (alarm) signaling device for at least one (1) hour, and the means of two-way conversation for at least four (4) hours.
- G. Terminate cab television wiring (for CCTV in car) at the car top in a clearly marked box and at the Cellar floor in a clearly marked box as directed by the Commissioner for connection to the CCTV camera installed by the City of New York.
- H. Furnish and install a separate, duplex, 120 Volt AC, 20 Amp., G.F.C.I. protected utility outlet on the car top for the CCTV power supply. This outlet shall be in addition to the outlet in the top-of-car inspection station.
- I. Provide at least ten percent (10%) spare conductors in all hoistway wiring conduits.



2.35 HANDS FREE TELEPHONE/INTERCOM

- A. Build into the new car push-button station a hands-free auto-dial telephone.
- B. Telephone shall have a two-number capacity, after a predetermined number of unanswered rings the phone shall automatically dial a second number.
- C. The telephone shall have an auto-answer feature, after a predetermined number of rings it shall automatically answer incoming calls.
- D. It shall be possible to establish communications between the car and machinery room and between the car via an intercom system. This system may be a function of the hands-free phone, or it may be a separate system. When the car is contacted from the machinery room the conversation between the car and a location outside of the building shall be terminated.

2.36 SEISMIC REQUIREMENTS

- A. All elevator equipment installed shall comply with the requirements for seismic risk zone 2. These shall include, but are not limited to:
 - 1. Pipe rupture valve in the pit.
 - 2. Guarding of snag points on rails brackets, rail clip bolts, fishplates, and vanes where the traveling cables come within thirty-six (36) inches of such points.

2.37 MISCELLANEOUS

- A. MAINTENANCE COMPANY IDENTIFICATION: Post on the cover for the controller and on the main line disconnects the name, address, and telephone number of the elevator maintenance company.
- B. ELEVATOR NUMBERS: Affix the City of New York Elevator number to the controller, machine, hoist motor, main line disconnect switches, car station, and car crosshead.
- C. PLATFORM GUARD: Each entrance side of the platform shall be provided with a smooth metal guard plate of not less than 0.0598 thick steel adequately reinforced and braced to the car platform. The guard shall extend the full width of the hoistway door opening and have a straight vertical face, extending 21" below the floor surface of the platform. The lower portion of the guard shall be bent back at an angle of not less than 60° nor more than 75° from the horizontal.
- D. BEAMS AND SUPPORTS: The Elevator Subcontractor shall furnish and install all steel required to support and attach the elevator equipment to the building structure, including cylinders, buffers, guide rails and governor.

2.38 MANUFACTURERS AND SUPPLIERS

- A. Subject to compliance with requirements, provide products by the following manufacturers:



1. Machines, car slings, platforms, counterweights, safety mechanisms, over-speed governors, sheaves, shackles, and buffers:
 - a. Canton Elevator, Inc.
 - b. Elevator Equipment Company, Inc. (EECO)
 - c. Quality Elevator Products, Inc.
 - d. Delaware Elevator Manufacturing.
 - e. Minnesota Elevator (MEI).
 - f. Mongrain Vertical Transport.
 - g. Or approved equal.
2. Pump motors:
 - a. The Imperial Electric Company
 - b. Reuland Electric Company
 - c. U. S. Electrical Motors.
 - d. Or approved equal.
3. Controllers, selectors, leveling units and control components:
 - a. Claddagh Electronics
 - b. Elevator Systems, Inc.
 - c. Motion Control Engineering, Inc
 - d. GAL Manufacturing Corp.
 - e. Smartrise Engineering
 - f. Or approved equal.
4. Wire and Traveling Cables:
 - a. Draka Elevator.
 - b. Benfield Electric Co.
 - c. Consolidated Electrical Distributors, Inc
 - d. Or approved equal.
5. Hoistway door interlocks, tracks, hangers, door operators, gate switches,



limitswitches and hoistway door closers:

- a. GAL Manufacturing Corporation
- b. C.J. Anderson and Company
- c. Wittur USA, Inc.
- d. United parts Co.
- e. Or approved equal.

6. Door protection and reopening devices:

- a. Adams Elevator Equipment Company
- b. GAL Manufacturing Corporation
- c. Innovation Industries, Inc.
- d. Janus Elevator Products, Inc.
- e. Tri-Tronics Company, Inc.
- f. Or approved equal.

7. Car and hall push button fixtures, position, and directional indicators:

- a. C.J. Anderson and Company
- b. Elevator Products Corporation
- c. GAL Manufacturing Corporation
- d. Innovation Industries, Inc.
- e. Monitor Controls, Inc.
- f. P.T.L. Equipment Manufacturing Co., Inc.
- g. World Electronics
- h. Claddagh Electronics
- i. National Fixtures
- j. Or approved equal.

8. Guide rails, rail clips, fishplates, and inserts:

- a. AFD Industries, Inc.



- b. ESCO Elevator Products
 - c. Standard Steel Specialty Company
 - d. Metal Processing Corporation
 - e. Or approved equal.
- 9. Cabs, cab parts, cab finishes:
 - a. Columbia Elevator Products, Co., Inc.
 - b. Elevator Doors, Inc./Elevator Cabs, Inc.
 - c. Elite Elevator Cab and Door Corp.
 - d. National Elevator Cab and Door Corp.
 - e. The Peelle Company
 - f. Park Avenue
 - g. Regency
 - h. Innovative
 - i. United Elevator Cab.
 - j. CEC Elevator Cab and Door Corp.
 - k. Or approved equal.
- 10. Entrances and Doors:
 - a. Columbia Elevator Products, Co., Inc.
 - b. Elevator Doors, Inc./Elevator Cabs, Inc.
 - c. National Elevator Cab and Door Corp.
 - d. Tyler Elevator Products, Inc
 - e. CEC Elevator Cab and Door Corp.
 - f. Or approved equal.
- 11. Signs and Labels:
 - a. Seton Name Plate Company
 - b. Entrada Incorporated



- c. Code Data Plate, Inc
- d. Or approved equal.

PART 3. EXECUTION

3.1 EXECUTION REQUIREMENTS

- A. Refer to DDC General Conditions for execution requirements.

3.2 INSPECTION

- A. Study the Contract Documents regarding the work as shown and required to insure its completeness.
- B. Examine surface and conditions to which this work is to be attached or applied and notify the Commissioner, in writing, if conditions or surfaces are detrimental to the proper and expeditious installation of the work. Starting the work shall imply acceptance of the surfaces and conditions to perform the work as specified.
- C. Verify, by measurements at the job site, dimensions affecting the work. Bring field dimensions, which are at variance with those on the accepted shop drawings, to the attention of the Commissioner. Obtain the decision regarding corrective measures before the start of fabrication of items affected.
- D. Cooperate in the coordination and scheduling of the work of this section with the work of other sections so as not to delay job progress.

3.3 INSTALLATION

- A. Refurbish, modify, and upgrade the elevators with skilled workmen in strict accordance with the accepted shop drawings and other submittals.
- B. Comply with the New York City Building Code, manufacturer's instructions, and recommendations.
- C. Coordinate work with the work of other trades for proper time and sequence to avoid construction delays and to ensure right-of-way system. Use lines and levels to insure dimensional coordination of the work.
- D. Accurately and rigidly secure supporting elements within the hoistway to the encountered construction within the tolerance established.
- E. Premium labor required to tie-in group control systems, hall buttons or other provisions, mandating the removal of more than one elevator, shall be included without extra charge to Commissioner.
- F. Provide and install motors, switches, controls, safety and maintenance, operating devices in strict accordance with the submitted wiring diagrams and New York City Building Code



- G. After installation, touch up in the field surfaces of shop finished elements that have become scratched or damaged.
- H. Lubricate operating parts of system as recommended by the manufacturer during the guarantee period.

3.4 WORK PHASING

- A. All work shall be performed between the hours of 7:00 A.M. to 4:30 P.M. Monday through Friday.
- B. Coordinate work phasing with all other trades responsible for portions of the work.

3.5 PROTECTION AND CLEANING

- A. During shipment and installation, adequately protect surfaces against accumulation of paint, mortar, mastic and disfiguration or discoloration and damage.
- B. Upon completion, remove protection and thoroughly clean work and have it free from discoloration, scratches, dents, and other surface defects.
- C. The finished installation shall be free of defects. Before final completion and acceptance of the elevator, repair and/or replace defective work to the satisfaction of the Commissioner at no additional cost to The City of New York.
- D. The Contractor shall at the end of each day broom clean all spaces in which work is being performed. Provisions shall be made by the Contractor to eliminate the tracking of dust or oil into public spaces.
- E. The Contractor shall be responsible for the public safety around the elevator hoistway in which he is working to include all required safety barricading.

3.6 OPERATING PERFORMANCE STANDARDS

- A. Tachd operating speed in both directions of travel under varying load conditions +/- 5% of rated speed.
- B. Passenger Elevator door closing force measured at stall point after 50% completion of cycle maximum 30 lbf.

3.7 INSTRUCTION

- A. The contractor shall instruct the Building Operations Personnel in the operation of the elevators including:
 - 1. Normal automatic operation.
 - 2. Independent Service operation.
 - 3. Firefighter's Service.
- B. The contractor shall instruct the City of New York's personnel in the proper procedures to follow when a person becomes entrapped in an elevator.



END OF SECTION 142410



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SECTION 220513 - COMMON MOTOR REQUIREMENTS FOR PLUMBING EQUIPMENT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The following documents apply to all required work for the Project: (1) the Contract Drawings, (2) the Specifications, (3) the General Conditions, (4) the Addendum and (5) the Contract (City of New York Standard Construction Contract).

1.2 SUMMARY

- A. Section includes general requirements for single-phase and, general-purpose, horizontal, small and medium, squirrel-cage induction motors for use on ac power systems up to 600 V and installed at equipment manufacturer's factory or shipped separately by equipment manufacturer for field installation.

1.3 SUBMITTALS PROCEDURES

- A. Refer to DDC General Conditions Section 01 33 00 "Submittal Procedures".

1.4 COORDINATION

- A. Coordinate features of motors, installed units, and accessory devices to be compatible with the following:
 - 1. Motor controllers.
 - 2. Torque, speed, and horsepower requirements of the load.
 - 3. Ratings and characteristics of supply circuit and required control sequence.
 - 4. Ambient and environmental conditions of installation location.

PART 2 - PRODUCTS

2.1 GENERAL MOTOR REQUIREMENTS

- A. Comply with NEMA MG 1 unless otherwise indicated.
- B. Comply with IEEE 841 for severe-duty motors.

2.2 MOTOR CHARACTERISTICS

- A. Duty: Continuous duty at ambient temperature of 40 deg C and at altitude of 3300 feet above sea level.



- B. Capacity and Torque Characteristics: Sufficient to start, accelerate, and operate connected loads at designated speeds, at installed altitude and environment, with indicated operating sequence, and without exceeding nameplate ratings or considering service factor.

2.3 POLYPHASE MOTORS

- A. Description: NEMA MG 1, Design B, medium induction motor.
- B. Efficiency: Energy efficient, as defined in NEMA MG 1.
- C. Service Factor: 1.15.
- D. Multispeed Motors: Variable torque.
 - 1. For motors with 2:1 speed ratio, consequent pole, single winding.
 - 2. For motors with other than 2:1 speed ratio, separate winding for each speed.
- E. Multispeed Motors: Separate winding for each speed.
- F. Rotor: Random-wound, squirrel cage.
- G. Bearings: Regreasable, shielded, antifriction ball bearings suitable for radial and thrust loading.
- H. Temperature Rise: Match insulation rating.
- I. Insulation: Class F.
- J. Code Letter Designation:
 - 1. Motors 15 HP and Larger: NEMA starting Code F or Code G.
 - 2. Motors Smaller than 15 HP: Manufacturer's standard starting characteristic.
- K. Enclosure Material: Cast iron for motor frame sizes 324T and larger; rolled steel for motorframe sizes smaller than 324T

2.4 POLYPHASE MOTORS WITH ADDITIONAL REQUIREMENTS

- A. Motors Used with Reduced-Voltage and Multispeed Controllers: Match wiring connection requirements for controller with required motor leads. Provide terminals in motor terminal box, suited to control method.
- B. Severe-Duty Motors: Comply with IEEE 841, with 1.15 minimum service factor.

2.5 SINGLE-PHASE MOTORS

- A. Motors larger than 1/20 hp shall be one of the following, to suit starting torque and requirements of specific motor application:
 - 1. Permanent-split capacitor.



2. Split phase.
 3. Capacitor start, inductor run.
 4. Capacitor start, capacitor run.
- B. Multispeed Motors: Variable-torque, permanent-split-capacitor type.
- C. Bearings: Pre-lubricated, antifriction ball bearings or sleeve bearings suitable for radial and thrust loading.
- D. Motors 1/20 HP and Smaller: Shaded-pole type.
- E. Thermal Protection: Internal protection to automatically open power supply circuit to motor when winding temperature exceeds a safe value calibrated to temperature rating of motor insulation. Thermal-protection device shall automatically reset when motor temperature returns to normal range.

PART 3 - EXECUTION (Not Applicable)

END OF SECTION 220513



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SECTION 220517 - SLEEVES AND SLEEVE SEALS FOR PLUMBING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The following documents apply to all required work for the Project: (1) the Contract Drawings, (2) the Specifications, (3) the General Conditions, (4) the Addendum and (5) the Contract (City of New York Standard Construction Contract).

1.2 SUMMARY

- A. Section Includes:

- 1. Sleeves.
- 2. Sleeve-seal systems.
- 3. Grout.
- 4. Firestopping

1.3 SUBMITTALS PROCEDURES

- A. Refer to DDC General Conditions Section 01 33 00 "Submittal Procedures".

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated, including fire-test response characteristics data and requirements.

1.5 QUALITY ASSURANCE

- A. Refer to DDC General Conditions Section 01 40 00 "Quality Requirements".

PART 2 - PRODUCTS

2.1 SLEEVES

- A. Cast-Iron Wall Pipes: Cast or fabricated of cast or ductile iron and equivalent to ductile-iron pressure pipe, with plain ends and integral waterstop unless otherwise indicated.
- B. Galvanized-Steel Wall Pipes: ASTM A 53/A 53M, Schedule 40, with plain ends and welded steel collar; zinc coated.
- C. Galvanized-Steel-Pipe Sleeves: ASTM A 53/A 53M, Type E, Grade B, Schedule 40, zinc coated, with plain ends.
- D. Coordinate construction of size openings and penetrating items (core-drill holes or cut openings to ensure and accommodate that the penetration firestopping is installed according to installation requirements.

2.2 SLEEVE-SEAL SYSTEMS



1. Sealing Elements: EPDM-rubber interlocking links shaped to fit surface of pipe. Include type and number required for pipe material and size of pipe.
2. Connecting Bolts and Nuts: Carbon steel, with corrosion-resistant coating, of length required to secure pressure plates to sealing elements.

2.3 GROUT

- A. Standard: ASTM C 1107/C 1107M, Grade B, post-hardening and volume-adjusting, dry, hydraulic-cement grout.
- B. Characteristics: Non-shrink; recommended for interior and exterior applications.
- C. Design Mix: 5000-psi (34.5-MPa), 28-day compressive strength.
- D. Packaging: Premixed and factory packaged.

2.4 PENETRATION FIRESTOPPING

- A. Penetrations in fire-resistance rated walls with ratings determined per ASTM E814 or UL 1479 based on testing at positive pressure, including floor and ceiling assemblies.
- B. Rating shall be at least 1-hour, but not less than the fire-resistance rating of construction penetrated.
- C. Exposed penetration firestopping with a flame spread and smoke developed indexes of not less than 25 and 50, respectively, as per ASTM E84.
- D. Provide firestopping that complies with the limits according to 40CFR 59, subpart D (EPA Method 24).
- E. Firestop devices: Factory assembled collars formed from galvanized steel and lined with intumescent material sized to fit specific diameter of penetration.

PART 3 - EXECUTION

3.1 EXECUTION REQUIREMENTS

- A. Refer to DDC General Conditions for execution requirements.

3.2 SLEEVE INSTALLATION

- A. Install sleeves for piping passing through penetrations in floors, partitions, and walls.
- B. For sleeves that will have sleeve-seal system installed, select sleeves of size large enough to provide 1-inch (25-mm) annular clear space between piping and concrete slabs and walls.
 1. Sleeves are not required for core-drilled holes.
- C. Install sleeves in concrete floors, concrete roof slabs, and concrete walls as new slabs and walls are constructed.



1. Permanent sleeves are not required for holes in slabs formed by molded-PE or -PP sleeves.
 2. Cut sleeves to length for mounting flush with both surfaces.
 3. Using grout, seal the space outside of sleeves in slabs and walls without sleeve-seal system.
- D. Install sleeves for pipes passing through interior partitions.
1. Cut sleeves to length for mounting flush with both surfaces.
 2. Install sleeves that are large enough to provide 1/4-inch (6.4-mm) annular clear space between sleeve and pipe or pipe insulation.
 3. Seal annular space between sleeve and piping or piping insulation; use joint sealants appropriate for size, depth, and location of joint.
- E. Fire-Barrier Penetrations: Maintain indicated fire rating of walls, partitions, ceilings, and floors at pipe penetrations. Seal pipe penetrations with firestop materials. Comply with requirements for firestopping specified as noted.
- F. Install penetration firestopping to comply with manufacturers written instructions.
- G. Install fill materials for firestopping by proven techniques to fill voids and cavities from openings, to achieve fire resistance ratings indicated. For fill material that will remain exposed after completing the work, shall be a smooth finish that are flush with adjoining finishes.

3.3 SLEEVE-SEAL-SYSTEM INSTALLATION

- A. Install sleeve-seal systems in sleeves in exterior concrete walls and slabs-on-grade at service piping entries into building.
- B. Select type, size, and number of sealing elements required for piping material and size and for sleeve ID or hole size. Position piping in center of sleeve. Center piping in penetration, assemble sleeve-seal system components, and install in annular space between piping and sleeve. Tighten bolts against pressure plates that cause sealing elements to expand and make a watertight seal.

3.4 SLEEVE-SEAL-FITTING INSTALLATION

- A. Install sleeve-seal fittings in new walls and slabs as they are constructed.
- B. Assemble fitting components of length to be flush with both surfaces of concrete slabs and walls. Position water-stop flange to be centered in concrete slab or wall.
- C. Secure nailing flanges to concrete forms.
- D. Using grout, seal the space around outside of sleeve-seal fittings.

3.5 SLEEVE AND SLEEVE-SEAL SCHEDULE



- A. Use sleeves and sleeve seals for the following piping-penetration applications:
 - 1. Interior Partitions:
 - a. Piping Smaller Than NPS 6 (DN 150) 2”: Galvanized-steel-pipe sleeves.

3.6 CLEANING AND PROTECTION

- A. Clean off excess fill materials adjacent to openings as the Work progresses by methods and with cleaning materials that are approved in writing by penetration firestopping manufacturers and that do not damage materials in which openings occur.
- B. Provide final protection and maintain conditions during and after installation that ensure that penetration firestopping is without damage or deterioration at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, immediately cut out and remove damaged or deteriorated penetration firestopping and install new materials to produce systems complying with specified requirements.
- C. Proceed with enclosing penetration firestopping with other construction only after inspection reports are issued and installations comply with requirements.

END OF SECTION 220517



SECTION 220523.14 - CHECK VALVES FOR PLUMBING PIPING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The following documents apply to all required work for the Project: (1) the Contract Drawings, (2) the Specifications, (3) the General Conditions, (4) the Addendum and (5) the Contract (City of New York Standard Construction Contract).

1.2 SUMMARY

- A. Section Includes:
 - 1. Bronze swing check valves.
 - 2. Iron swing check valves.
 - 3. Iron, grooved-end swing check valves.

1.3 DEFINITIONS

- A. CWP: Cold working pressure.
- B. EPDM: Ethylene propylene-diene terpolymer rubber.
- C. NBR: Acrylonitrile-butadiene, Buna-N, or nitrile rubber.

1.4 SUBMITTALS PROCEDURES

- A. Refer to DDC General Conditions Section 01 33 00 "Submittal Procedures".

1.5 ACTION SUBMITTALS

- A. Product Data: For each type of valve.
 - 1. Certification that products comply with NSF 61 Annex G and NSF 372.

1.6 QUALITY ASSURANCE

- A. Refer to DDC General Conditions Section 01 40 00 "Quality Requirements".

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Prepare valves for shipping as follows:
 - 1. Protect internal parts against rust and corrosion.
 - 2. Protect threads, flange faces, grooves, and weld ends.
 - 3. Set check valves in either closed or open position.
- B. Use the following precautions during storage:
 - 1. Maintain valve end protection.
 - 2. Store valves indoors and maintain at higher-than-ambient-dew-point temperature. If outdoor storage is necessary, store valves off the ground in watertight enclosures.



- C. Use sling to handle large valves; rig sling to avoid damage to exposed parts. Do not use handwheels or stems as lifting or rigging points.

PART 2 - PRODUCTS

2.1 GENERAL REQUIREMENTS FOR VALVES

- A. Source Limitations for Valves: Obtain each type of valve from single source from single manufacturer.
- B. ASME Compliance:
 - 1. ASME B1.20.1 for threads for threaded end valves.
 - 2. ASME B16.1 for flanges on iron valves.
 - 3. ASME B16.10 and ASME B16.34 for ferrous valve dimensions and design criteria.
 - 4. ASME B31.9 for building services piping valves.
- C. AWWA Compliance: Comply with AWWA C606 for grooved-end connections.
- D. NSF Compliance: NSF 61 Annex G and NSF 372 for valve materials for potable-water service.
- E. Bronze valves shall be made with dezincification-resistant materials. Bronze valves made with copper alloy (brass) containing more than 15 percent zinc are not permitted.
- F. Valve Pressure-Temperature Ratings: Not less than indicated and as required for system pressures and temperatures.
- G. Valve Sizes: Same as upstream piping unless otherwise indicated.
- H. Valve Bypass and Drain Connections: MSS SP-45.

2.2 BRONZE SWING CHECK VALVES

- A. Bronze Swing Check Valves with Bronze Disc, Class 125:
 - 1. Description:
 - a. Standard: MSS SP-80, Type 3.
 - b. CWP Rating: 200 psig (1380 kPa).
 - c. Body Design: Horizontal flow.
 - d. Body Material: ASTM B 62, bronze.
 - e. Ends: Threaded or soldered. See valve schedule articles.
 - f. Disc: Bronze.
- B. Bronze Swing Check Valves with Nonmetallic Disc, Class 125:
 - 1. Description:
 - a. Standard: MSS SP-80, Type 4.
 - b. CWP Rating: 200 psig (1380 kPa).
 - c. Body Design: Horizontal flow.
 - d. Body Material: ASTM B 62, bronze.
 - e. Ends: Threaded or soldered. See valve schedule articles.
 - f. Disc: PTFE.



- C. Bronze Swing Check Valves with Bronze Disc, Class 150,
 - 1. Description:
 - a. Standard: MSS SP-80, Type 3.
 - b. CWP Rating: 300 psig (2070 kPa).
 - c. Body Design: Horizontal flow.
 - d. Body Material: ASTM B 62, bronze.
 - e. Ends: Threaded or soldered. See valve schedule articles.
 - f. Disc: Bronze.
- D. Bronze Swing Check Valves with Nonmetallic Disc, Class 150:
 - 1. Description:
 - a. Standard: MSS SP-80, Type 4.
 - b. CWP Rating: 300 psig (2070 kPa).
 - c. Body Design: Horizontal flow.
 - d. Body Material: ASTM B 62, bronze.
 - e. Ends: Threaded or soldered. See valve schedule articles.
 - f. Disc: PTFE.

2.3 IRON SWING CHECK VALVES

- A. Iron Swing Check Valves with Metal Seats, Class 125:
 - 1. Description:
 - a. Standard: MSS SP-71, Type I.
 - b. CWP Rating: 200 psig (1380 kPa).
 - c. Body Design: Clear or full waterway.
 - d. Body Material: ASTM A 126, gray iron with bolted bonnet.
 - e. Ends: Flanged or threaded. See valve schedule articles.
 - f. Trim: Bronze.
 - g. Gasket: Asbestos free.
- B. Iron Swing Check Valves with Nonmetallic-to-Metal Seats, Class 125:
 - 1. Description:
 - a. Standard: MSS SP-71, Type I.
 - b. CWP Rating: 200 psig (1380 kPa).
 - c. Body Design: Clear or full waterway.
 - d. Body Material: ASTM A 126, gray iron with bolted bonnet.
 - e. Ends: Flanged or threaded. See valve schedule articles.
 - f. Trim: Composition.
 - g. Seat Ring: Bronze.
 - h. Disc Holder: Bronze.
 - i. Disc: PTFE.
 - j. Gasket: Asbestos free.
- C. Iron Swing Check Valves with Metal Seats, Class 250
 - 1. Description:
 - a. Standard: MSS SP-71, Type I.



- b. CWP Rating: 500 psig (3450 kPa).
- c. Body Design: Clear or full waterway.
- d. Body Material: ASTM A 126, gray iron with bolted bonnet.
- e. Ends: Flanged or threaded. See valve schedule articles.
- f. Trim: Bronze.
- g. Gasket: Asbestos free.
- h. Seat: Bronze.

PART 3 - EXECUTION

3.1 EXECUTION REQUIREMENTS

- A. Refer to DDC General Conditions for execution requirements.

3.2 EXAMINATION

- A. Examine valve interior for cleanliness, freedom from foreign matter, and corrosion. Remove special packing materials, such as blocks, used to prevent disc movement during shipping and handling.
- B. Operate valves in positions from fully open to fully closed. Examine guides and seats made accessible by such operations.
- C. Examine threads on valve and mating pipe for form and cleanliness.
- D. Examine mating flange faces for conditions that might cause leakage. Check bolting for proper size, length, and material. Verify that gasket is of proper size, that its material composition is suitable for service, and that it is free from defects and damage.
- E. Do not attempt to repair defective valves; replace with new valves.

3.3 VALVE INSTALLATION

- A. Install valves with unions or flanges at each piece of equipment arranged to allow service, maintenance, and equipment removal without system shutdown.
- B. Locate valves for easy access and provide separate support where necessary.
- C. Install valves in horizontal piping with stem at or above center of pipe.
- D. Install valves in position to allow full stem movement.
- E. Install check valves for proper direction of flow and as follows:
 - 1. Swing Check Valves: In horizontal position with hinge pin level.
 - 2. Check Valves: In horizontal or vertical position, between flanges.
- F. Install valve tags. Comply with requirements in Section 220553 "Identification for Plumbing Piping and Equipment" for valve tags and schedules.



3.4 ADJUSTING

- A. Adjust or replace valve packing after piping systems have been tested and put into service but before final adjusting and balancing. Replace valves if persistent leaking occurs.

3.5 GENERAL REQUIREMENTS FOR VALVE APPLICATIONS

- A. If valve applications are not indicated, use the following:
 - 1. Pump-Discharge Check Valves:
 - a. NPS 2 (DN 50) and Smaller: Bronze swing check valves with bronze or nonmetallic disc.
 - b. NPS 2-1/2 (DN 65) and Larger for Domestic Water: Iron swing check valves with lever and weight or spring; or iron, center-guided, metal-seat check valves.
 - c. NPS 2-1/2 (DN 65) and Larger for Sanitary Waste and Storm Drainage: Iron swing check valves with lever and weight or spring.
- B. If valves with specified CWP ratings are unavailable, the same types of valves with higher CWP ratings may be substituted.
- C. End Connections:
 - 1. For Steel Piping, NPS 2 (DN 50) and Smaller: Threaded.
 - 2. For Steel Piping, NPS 2-1/2 to NPS 4 (DN 65 to DN 100): Flanged or threaded.
 - 3. For Grooved-End Steel Piping: Grooved.
 - 4. Iron, dual-plate check valves with metal seat, Class 125 or Class 150 with threaded or flanged end connections.
 - 5. Iron, single-plate check valves with resilient seat, Class 125, with threaded or flanged end connections.

END OF SECTION 220523.14



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SECTION 220523.15 - GATE VALVES FOR PLUMBING PIPING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The following documents apply to all required work for the Project: (1) the Contract Drawings, (2) the Specifications, (3) the General Conditions, (4) the Addendum and (5) the Contract (City of New York Standard Construction Contract).

1.2 SUMMARY

- A. Section Includes:
 - 1. Bronze gate valves.
 - 2. Iron gate valves.
 - 3. Chainwheels.

1.3 DEFINITIONS

- A. CWP: Cold working pressure.
- B. NRS: Non-rising stem.
- C. OS&Y: Outside screw and yoke.
- D. RS: Rising stem.

1.4 SUBMITTALS PROCEDURES

- A. Refer to DDC General Conditions Section 01 33 00 "Submittal Procedures".

1.5 ACTION SUBMITTALS

- A. Product Data: For each type of valve.
 - 1. Certification that products comply with NSF 61 Annex G and NSF 372.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Prepare valves for shipping as follows:
 - 1. Protect internal parts against rust and corrosion.
 - 2. Protect threads, flange faces, grooves, and weld ends.
 - 3. Set gate valves closed to prevent rattling.
- B. Use the following precautions during storage:
 - 1. Maintain valve end protection.
 - 2. Store valves indoors and maintain at higher-than-ambient-dew-point temperature. If outdoor storage is necessary, store valves off the ground in watertight enclosures.



- C. Use sling to handle large valves; rig sling to avoid damage to exposed parts. Do not use handwheels or stems as lifting or rigging points.

1.7 QUALITY ASSURANCE

- A. Refer to DDC General Conditions Section 01 40 00 "Quality Requirements".

PART 2 - PRODUCTS

2.1 GENERAL REQUIREMENTS FOR VALVES

- A. Source Limitations for Valves: Obtain each type of valve from single source from single manufacturer.
- B. ASME Compliance:
 - 1. ASME B1.20.1 for threads for threaded end valves.
 - 2. ASME B16.1 for flanges on iron valves.
 - 3. ASME B16.10 and ASME B16.34 for ferrous valve dimensions and design criteria.
 - 4. ASME B31.9 for building services piping valves.
- C. NSF Compliance: NSF 61 Annex G and NSF 372 for valve materials for potable-water service.
- D. Bronze valves shall be made with dezincification-resistant materials. Bronze valves made with copper alloy (brass) containing more than 15 percent zinc are not permitted.
- E. Valve Pressure-Temperature Ratings: Not less than indicated and as required for system pressures and temperatures.
- F. Valve Sizes: Same as upstream piping unless otherwise indicated.
- G. RS Valves in Insulated Piping: With 2-inch (50-mm) stem extensions.
- H. Valve Bypass and Drain Connections: MSS SP-45.

2.2 BRONZE GATE VALVES

- A. Bronze Gate Valves, NRS, Class 125:
 - 1. Description:
 - a. Standard: MSS SP-80, Type 1 with ferrous-alloy handwheel.
 - b. CWP Rating: 200 psig (1380 kPa).
 - c. Body Material: Bronze with integral seat and screw-in bonnet & non-rising stem, solid wedge.
 - d. Ends: Threaded or solder joint.
 - e. Stem: Bronze.
 - f. Disc: Solid wedge; bronze.
 - g. Packing: Asbestos free.
 - h. Handwheel: Malleable iron, bronze, or aluminum.

B. Bronze Gate Valves, RS, Class 125:

1. Description:

- a. Standard: MSS SP-80, Type 2.
- b. CWP Rating: 200 psig (1380 kPa).
- c. Body Material: Bronze with integral seat and screw-in bonnet.
- d. Ends: Threaded or solder joint.
- e. Stem: Bronze.
- f. Disc: Solid wedge; bronze.
- g. Packing: Asbestos free.
- h. Handwheel: Malleable iron, bronze, or aluminum.

C. Bronze Gate Valves, NRS, Class 150:

1. Description:

- a. Standard: MSS SP-80, Type 1.
- b. CWP Rating: 300 psig (2070 kPa).
- c. Body Material: Bronze with integral seat and union-ring bonnet.
- d. Ends: Threaded.
- e. Stem: Bronze, non-rising.
- f. Disc: Solid wedge; bronze.
- g. Packing: Asbestos free.
- h. Handwheel: Malleable iron, bronze, or aluminum.

D. Bronze Gate Valves, RS, Class 150:

1. Description:

- a. Standard: MSS SP-80, Type 2.
- b. CWP Rating: 300 psig (2070 kPa).
- c. Body Material: Bronze with integral seat and union-ring bonnet.
- d. Ends: Threaded.
- e. Stem: Bronze, rising.
- f. Disc: Solid wedge; bronze.
- g. Packing: Asbestos free.
- h. Handwheel: Malleable iron, bronze, or aluminum.

2.3 IRON GATE VALVES

A. Iron Gate Valves, NRS, Class 150:

1. Description:

- a. Standard: MSS SP-70, Type I.
- b. CWP Rating: 200 psig (1380 kPa).
- c. Body Material: Gray iron with bolted bonnet.
- d. Ends: Flanged.
- e. Trim: Bronze.
- f. Disc: Solid wedge.
- g. Non-rising stem



- h. Packing and Gasket: Asbestos free.
- B. Globe Valves, NRS, Bronze with metal disc: type 1, class 125, bronze body valve with bronze disc and union-ring bonnet
- C. Globe Valves, NRS, Bronze with non-metal disc: type 2, class 150, bronze body valve with bronze disc and union-ring bonnet
- D. Globe Valves, general: MSS SP-80, with ferrous-alloy handwheel.

PART 3 - EXECUTION

3.1 EXECUTION REQUIREMENTS

- A. Refer to DDC General Conditions for execution requirements.

3.2 EXAMINATION

- A. Examine valve interior for cleanliness, freedom from foreign matter, and corrosion. Remove special packing materials, such as blocks, used to prevent disc movement during shipping and handling.
- B. Operate valves in positions from fully open to fully closed. Examine guides and seats made accessible by such operations.
- C. Examine threads on valve and mating pipe for form and cleanliness.
- D. Examine mating flange faces for conditions that might cause leakage. Check bolting for proper size, length, and material. Verify that gasket is of proper size, that its material composition is suitable for service, and that it is free from defects and damage.
- E. Do not attempt to repair defective valves; replace with new valves.

3.3 VALVE INSTALLATION

- A. Install valves with unions or flanges at each piece of equipment arranged to allow service, maintenance, and equipment removal without system shutdown.
- B. Locate valves for easy access and provide separate support where necessary.
- C. Install valves in horizontal piping with stem at or above center of pipe.
- D. Install valves in position to allow full stem movement.
- E. Install valve tags. Comply with requirements in Section 220553 "Identification for Plumbing Piping and Equipment" for valve tags and schedules.

3.4 ADJUSTING

- A. Adjust or replace valve packing after piping systems have been tested and put into service but before final adjusting and balancing. Replace valves if persistent leaking occurs.



3.5 GENERAL REQUIREMENTS FOR VALVE APPLICATIONS

- A. Use gate valves for shutoff service only.
- B. If valves with specified CWP ratings are unavailable, the same types of valves with higher CWP ratings may be substituted.
- C. For Grooved-End Steel Piping: Valve ends may be grooved.
- D. Sanitary waste and storm drainage piping: use the following type of valves:
 - 1. Gate Valves, NPS 2 (DN 50) and Smaller: Type 1, 2, Class 125, 150 bronze.
 - 2. Gate Valves, NPS 2-1/2 (DN 65) and Larger: Type I, Class 125, OS&Y, bronze-mounted cast iron.
 - 3. Globe Valves, NPS 2 (DN 50) and Smaller: Type 1, 2, Class 125, 150 bronze.
 - 4. Globe Valves, NPS 2-1/2 (DN 65) and Larger: Type I, Class 125, cast iron.

END OF SECTION 220523.15



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SECTION 220529 - HANGERS AND SUPPORTS FOR PLUMBING PIPING AND EQUIPMENT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The following documents apply to all required work for the Project: (1) the Contract Drawings, (2) the Specifications, (3) the General Conditions, (4) the Addendum and (5) the Contract (City of New York Standard Construction Contract).

1.2 SUMMARY

- A. Section Includes:
1. Metal pipe hangers and supports.
 2. Trapeze pipe hangers.
 3. Metal framing systems.
 4. Thermal-hanger shield inserts.
 5. Fastener systems.

1.3 DEFINITIONS

- A. MSS: Manufacturers Standardization Society of The Valve and Fittings Industry Inc.

1.4 PERFORMANCE REQUIREMENTS

- A. Structural Performance: Hangers and supports for plumbing piping and equipment shall withstand the effects of gravity loads and stresses within limits and under conditions indicated according to ASCE/SEI 7.
1. Design equipment supports capable of supporting combined operating weight of supported equipment and connected systems and components.
 2. Design seismic-restraint hangers and supports for piping and equipment and obtain approval from NYC Department of Buildings.

1.5 SUBMITTALS PROCEDURES

- A. Refer to DDC General Conditions Section 01 33 00 "Submittal Procedures".

1.6 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Shop Drawings: Signed and sealed by a qualified professional engineer licensed in the State of New York. Show fabrication and installation details and include calculations for the following: include Product Data for components:
3. Trapeze pipe hangers.
 4. Metal framing systems.
 5. Fiberglass strut systems.
 6. Equipment supports.



- C. For trapeze hangers indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.
 - 1. Detail fabrication and assembly of trapeze hangers.
 - 2. Design Calculations: Calculate requirements for designing trapeze hangers.

1.7 INFORMATIONAL SUBMITTALS

- A. Welding certificates.

1.8 QUALITY ASSURANCE

- A. Refer to DDC General Conditions Section 01 40 00 "Quality Requirements".
- B. Structural Steel Welding Qualifications: Qualify procedures and personnel according to AWS D1.1/D1.1M, "Structural Welding Code - Steel."
- C. Pipe Welding Qualifications: Qualify procedures and operators according to ASME Boiler and Pressure Vessel Code.

PART 2 - PRODUCTS

2.1 METAL PIPE HANGERS AND SUPPORTS

- A. Carbon-Steel Pipe Hangers and Supports:
 - 3. Description: MSS SP-58, Types 1 through 58, factory-fabricated components.
 - 4. Galvanized Metallic Coatings: Pre-galvanized or hot dipped.
 - 5. Nonmetallic Coatings: Plastic coating, jacket, or liner.
 - 6. Padded Hangers: Hanger with fiberglass or other pipe insulation pad or cushion to support bearing surface of piping.
 - 7. Hanger Rods: Continuous-thread rod, nuts, and washer made of carbon steel or stainless steel.
- B. Stainless-Steel Pipe Hangers and Supports:
 - 1. Description: MSS SP-58, Types 1 through 58, factory-fabricated components.
 - 2. Padded Hangers: Hanger with fiberglass or other pipe insulation pad or cushion to support bearing surface of piping.
 - 3. Hanger Rods: Continuous-thread rod, nuts, and washer made of stainless steel.

2.2 TRAPEZE PIPE HANGERS

- A. Description: MSS SP-69, Type 59, shop- or field-fabricated pipe-support assembly made from structural carbon-steel shapes with MSS SP-58 carbon-steel hanger rods, nuts, saddles, and U-bolts.

2.3 METAL FRAMING SYSTEMS

- A. MFMA Manufacturer Metal Framing Systems:



1. Standard: MFMA-4.
2. Channels: Continuous slotted steel channel with inturned lips.
3. Channel Nuts: Formed or stamped steel nuts or other devices designed to fit into channel slot and, when tightened, prevent slipping along channel.
4. Hanger Rods: Continuous-thread rod, nuts, and washer made of carbon steel or stainless steel.
5. Metallic Coating: Electroplated zinc, Hot-dipped galvanized.
6. Paint Coating: Epoxy, Acrylic and Alkyd.
7. Plastic Coating: Polyurethane or Epoxy

B. Non-MFMA Manufacturer Metal Framing Systems:

8. Standard: Comply with MFMA-4.
9. Channels: Continuous slotted steel channel with inturned lips.
10. Channel Nuts: Formed or stamped steel nuts or other devices designed to fit into channel slot and, when tightened, prevent slipping along channel.
11. Hanger Rods: Continuous-thread rod, nuts, and washer made of carbon steel, stainless steel
12. Coating: Zinc or Paint

2.4 THERMAL-HANGER SHIELD INSERTS

- A. Insulation-Insert Material for Hot Piping: ASTM C 533, Type I calcium silicate with 100-psig (688-kPa) minimum compressive strength.
- B. For Trapeze or Clamped Systems: Insert and shield shall cover entire circumference of pipe.
- C. For Clevis or Band Hangers: Insert and shield shall cover lower 180 degrees of pipe.
- D. Insert Length: Extend 2 inches (50 mm) beyond sheet metal shield for piping operating below ambient air temperature.

2.5 FASTENER SYSTEMS

- A. Powder-Actuated Fasteners: Threaded-steel stud, for use in hardened portland cement concrete with pull-out, tension, and shear capacities appropriate for supported loads and building materials where used.
- B. Mechanical-Expansion Anchors: Insert-wedge-type, zinc-coated or stainless- steel anchors, for use in hardened Portland cement concrete; with pull-out, tension, and shear capacities appropriate for supported loads and building materials where used.

2.6 PIPE POSITIONING SYSTEMS

- A. Description: IAPMO PS 42, positioning system of metal brackets, clips, and straps for positioning piping in pipe spaces; for plumbing fixtures in commercial applications.

2.7 EQUIPMENT SUPPORTS

- A. Description: Welded, shop- or field-fabricated equipment support made from structural carbon-steel shapes.



2.8 MISCELLANEOUS MATERIALS

- A. Structural Steel: ASTM A 36/A 36M, carbon-steel plates, shapes, and bars; black and galvanized.
- B. Grout: ASTM C 1107, factory-mixed and -packaged, dry, hydraulic-cement, non-shrink and nonmetallic grout; suitable for interior and exterior applications.
 - 1. Properties: Non-staining, noncorrosive, and nongaseous.
 - 2. Design Mix: 5000-psi (34.5-MPa), 28-day compressive strength.

PART 3 - EXECUTION

3.1 EXECUTION REQUIREMENTS

- A. Refer to DDC General Conditions for execution requirements.

3.2 HANGER AND SUPPORT INSTALLATION

- A. Metal Pipe-Hanger Installation: Comply with MSS SP-69 and MSS SP-89. Install hangers, supports, clamps, and attachments as required to properly support piping from the building structure.
- B. Metal Trapeze Pipe-Hanger Installation: Comply with MSS SP-69 and MSS SP-89. Arrange for grouping of parallel runs of horizontal piping, and support together on field-fabricated trapeze pipe hangers.
 - 1. Pipes of Various Sizes: Support together and space trapezes for smallest pipe size or install intermediate supports for smaller diameter pipes as specified for individual pipe hangers.
 - 2. Field fabricate from ASTM A 36/A 36M, carbon-steel shapes selected for loads being supported. Weld steel according to AWS D1.1/D1.1M.
- C. Fiberglass Pipe-Hanger Installation: Comply with applicable portions of MSS SP-69 and MSS SP-89. Install hangers and attachments as required to properly support piping from building structure.
- D. Metal Framing System installation: Arrange for grouping of parallel runs of piping, and support together on field-assembled metal framing systems.
- E. Fiberglass strut system Installation: Arrange for grouping of parallel runs of piping, and support together on field-assembled fiberglass struts.
- F. Thermal-Hanger Shield Installation: Install in pipe hanger or shield for insulated piping.
- G. Fastener System Installation:
 - 1. Install powder-actuated fasteners for use in lightweight concrete or concrete slabs less than 4 inches (100 mm) thick in concrete after concrete is placed and completely cured. Use operators that are licensed by powder-actuated tool manufacturer. Install fasteners according to powder-actuated tool manufacturer's operating manual.
 - 2. Install mechanical-expansion anchors in concrete after concrete is placed and completely cured. Install fasteners according to manufacturer's written instructions.



- H. Pipe Positioning-System Installation: Install support devices to make rigid supply and waste piping connections to each plumbing fixture.
- I. Install hangers and supports complete with necessary attachments, inserts, bolts, rods, nuts, washers, and other accessories.
- J. Equipment Support Installation: Fabricate from welded-structural-steel shapes.
- K. Install hangers and supports to allow controlled thermal and seismic movement of piping systems, to permit freedom of movement between pipe anchors, and to facilitate action of expansion joints, expansion loops, expansion bends, and similar units.
- L. Load Distribution: Install lateral bracing with pipe hangers and supports to prevent swaying.
- M. Install building attachments within concrete slabs or attach to structural steel. Install additional attachments at concentrated loads, including valves, flanges, and strainers, NPS 2-1/2 (DN 65) and larger and at changes in direction of piping. Install concrete inserts before concrete is placed; fasten inserts to forms and install reinforcing bars through openings at top of inserts.
- N. Load Distribution: Install hangers and supports so that piping live and dead loads and stresses from movement will not be transmitted to connected equipment.
- O. Pipe Slopes: Install hangers and supports to provide indicated pipe slopes and to not exceed maximum pipe deflections allowed by ASME B31.9 for building services piping.
- P. Insulated Piping:
 - 1. Attach clamps and spacers to piping.
 - a. Piping Operating above Ambient Air Temperature: Clamp may project through insulation.
 - b. Piping Operating below Ambient Air Temperature: Use thermal-hanger shield insert with clamp sized to match OD of insert.
 - c. Do not exceed pipe stress limits allowed by ASME B31.9 for building services piping.
 - 2. Install MSS SP-58, Type 39, protection saddles if insulation without vapor barrier is indicated. Fill interior voids with insulation that matches adjoining insulation.
 - 3. Install MSS SP-58, Type 40, protective shields on cold piping with vapor barrier. Shields shall span an arc of 180 degrees.
 - 4. Shield Dimensions for Pipe: Not less than the following:
 - a. NPS 1/4 to NPS 3-1/2 (DN 8 to DN 90): 12 inches (305 mm) long and 0.048 inch (1.22 mm) thick.
 - 5. Thermal-Hanger Shields: Install with insulation same thickness as piping insulation.



3.3 EQUIPMENT SUPPORTS

- A. Grouting: Place grout under supports for equipment and make bearing surface smooth.
- B. Provide lateral bracing, to prevent swaying, for equipment supports.

3.4 METAL FABRICATIONS

- A. Cut, drill, and fit miscellaneous metal fabrications for trapeze pipe hangers and equipment supports.
- B. Fit exposed connections together to form hairline joints. Field weld connections that cannot be shop welded because of shipping size limitations.
- C. Field Welding: Comply with AWS D1.1/D1.1M procedures for shielded, metal arc welding; appearance and quality of welds; and methods used in correcting welding work; and with the following:
 - 1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
 - 2. Obtain fusion without undercut or overlap.
 - 3. Remove welding flux immediately.
 - 4. Finish welds at exposed connections so no roughness shows after finishing and so contours of welded surfaces match adjacent contours.

3.5 ADJUSTING

- A. Hanger Adjustments: Adjust hangers to distribute loads equally on attachments and to achieve indicated slope of pipe.
- B. Trim excess length of continuous-thread hanger and support rods to 1-1/2 inches (40 mm)

3.6 PAINTING

- A. Touchup: Clean field welds and abraded areas of shop paint. Paint exposed areas immediately after erecting hangers and supports. Use same materials as used for shop painting. Comply with SSPC-PA 1 requirements for touching up field-painted surfaces.
 - 1. Apply paint by brush or spray to provide a minimum dry film thickness of 2.0 mils (0.05 mm).
- B. Galvanized Surfaces: Clean welds, bolted connections, and abraded areas and apply galvanizing-repair paint to comply with ASTM A 780.

3.7 HANGER AND SUPPORT SCHEDULE

- A. Specific hanger and support requirements are in Sections specifying piping systems and equipment.
- B. Comply with MSS SP-69 for pipe-hanger selections and applications that are not specified in piping system Sections.



- C. Use hangers and supports with galvanized metallic coatings for piping and equipment that will not have field-applied finish.
- D. Use nonmetallic coatings on attachments for electrolytic protection where attachments are in direct contact with copper tubing.
- E. Use carbon-steel pipe hangers and supports, metal trapeze pipe hangers and metal framing systems and attachments for general service applications.
- F. Use padded hangers for piping that is subject to scratching.
- G. Use thermal-hanger shield inserts for insulated piping and tubing.
- H. Horizontal-Piping Hangers and Supports: Unless otherwise indicated and except as specified in piping system Sections, install the following types:
 - 1. Adjustable, Steel Clevis Hangers (MSS Type 1): For suspension of non-insulated or insulated, stationary pipes NPS 1/2 to NPS 30 (DN 15 to DN 750).
 - 2. Yoke-Type Pipe Clamps (MSS Type 2): For suspension of up to 1050 deg F (566 deg C), pipes NPS 4 to NPS 24 (DN 100 to DN 600), requiring up to 4 inches (100 mm) of insulation.
 - 3. Carbon- or Alloy-Steel, Double-Bolt Pipe Clamps (MSS Type 3): For suspension of pipes NPS 3/4 to NPS 36 (DN 20 to DN 900), requiring clamp flexibility and up to 4 inches (100 mm) of insulation.
 - 4. Steel Pipe Clamps (MSS Type 4): For suspension of cold and hot pipes NPS 1/2 to NPS 24 (DN 15 to DN 600) if little or no insulation is required.
 - 5. Pipe Hangers (MSS Type 5): For suspension of pipes NPS 1/2 to NPS 4 (DN 15 to DN 100), to allow off-center closure for hanger installation before pipe erection.
 - 6. Adjustable, Steel Band Hangers (MSS Type 7): For suspension of non-insulated, stationary pipes NPS 1/2 to NPS 8 (DN 15 to DN 200).
 - 7. Adjustable, Swivel-Ring Band Hangers (MSS Type 10): For suspension of non-insulated, stationary pipes NPS 1/2 to NPS 8 (DN 15 to DN 200).
 - 8. Split Pipe Ring with or without Turnbuckle Hangers (MSS Type 11): For suspension of non-insulated, stationary pipes NPS 3/8 to NPS 8 (DN 10 to DN 200).
 - 9. Extension Hinged or Two-Bolt Split Pipe Clamps (MSS Type 12): For suspension of non-insulated, stationary pipes NPS 3/8 to NPS 3 (DN 10 to DN 80).
 - 10. U-Bolts (MSS Type 24): For support of heavy pipes NPS 1/2 to NPS 30 (DN 15 to DN 750).
 - 11. Clips (MSS Type 26): For support of insulated pipes not subject to expansion or contraction.
 - 12. Adjustable Pipe Saddle Supports (MSS Type 38): For stanchion-type support for pipes NPS 2-1/2 to NPS 36 (DN 65 to DN 900) if vertical adjustment is required, with steel-pipe base stanchion support and cast-iron floor flange.
 - 13. Single-Pipe Rolls (MSS Type 41): For suspension of pipes NPS 1 to NPS 30 (DN 25 to DN 750), from two rods if longitudinal movement caused by expansion and contraction



might occur.

14. Complete Pipe Rolls (MSS Type 44): For support of pipes NPS 2 to NPS 42 (DN 50 to DN 1050) if longitudinal movement caused by expansion and contraction might occur but vertical adjustment is not necessary.
15. Adjustable Pipe Roll and Base Units (MSS Type 46): For support of pipes NPS 2 to NPS 30 (DN 50 to DN 750) if vertical and lateral adjustment during installation might be required in addition to expansion and contraction.

I. Vertical-Piping Clamps: Unless otherwise indicated and except as specified in piping system Sections, install the following types:

1. Extension Pipe or Riser Clamps (MSS Type 8): For support of pipe risers NPS 3/4 to NPS 24 (DN 24 to DN 600).
2. Carbon- or Alloy-Steel Riser Clamps (MSS Type 42): For support of pipe risers NPS 3/4 to NPS 24 (DN 20 to DN 600) if longer ends are required for riser clamps.

J. Hanger-Rod Attachments: Unless otherwise indicated and except as specified in piping system Sections, install the following types:

1. Steel Turnbuckles (MSS Type 13): For adjustment up to 6 inches (150 mm) for heavy loads.
2. Steel Clevises (MSS Type 14): For 120 to 450 deg F (49 to 232 deg C) piping installations.

K. Building Attachments: Unless otherwise indicated and except as specified in piping system Sections, install the following types:

1. Steel or Malleable Concrete Inserts (MSS Type 18): For upper attachment to suspend pipe hangers from concrete ceiling.
2. Center-Beam Clamps (MSS Type 21): For attaching to center of bottom flange of beams.
3. Welded Beam Attachments (MSS Type 22): For attaching to bottom of beams if loads are considerable and rod sizes are large.
4. C-Clamps (MSS Type 23): For structural shapes.
5. Steel-Beam Clamps with Eye Nuts (MSS Type 28): For attaching to bottom of steel I-beams for heavy loads.
6. Linked-Steel Clamps with Eye Nuts (MSS Type 29): For attaching to bottom of steel I-beams for heavy loads, with link extensions.
7. Malleable-Beam Clamps with Extension Pieces (MSS Type 30): For attaching to structural steel.

L. Saddles and Shields: Unless otherwise indicated and except as specified in piping system Sections, install the following types:

1. Steel-Pipe-Covering Protection Saddles (MSS Type 39): To fill interior voids with insulation that matches adjoining insulation.
2. Protection Shields (MSS Type 40): Of length recommended in writing by manufacturer to



- prevent crushing insulation.
- 3. Thermal-Hanger Shield Inserts: For supporting insulated pipe.
- M. Comply with MSS SP-69 for trapeze pipe-hanger selections and applications that are not specified in piping system Sections.
- N. Comply with MFMA-103 for metal framing system selections and applications that are not specified in piping system Sections.

END OF SECTION 220529



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SECTION 220548.13 - VIBRATION CONTROLS FOR PLUMBING PIPING AND EQUIPMENT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The following documents apply to all required work for the Project: (1) the Contract Drawings, (2) the Specifications, (3) the General Conditions, (4) the Addendum and (5) the Contract (City of New York Standard Construction Contract).

1.2 SUMMARY

- A. Section Includes:

- 1. Elastomeric isolation pads.
 - 2. Open-spring isolators.
 - 3. Elastomeric isolation mounts.
 - 4. Resilient pipe guides.
 - 5. Elastomeric hangers.
 - 6. Spring hangers.

1.3 SUBMITTALS PROCEDURES

- A. Refer to DDC General Conditions Section 01 33 00 "Submittal Procedures".

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product.

- 1. Include rated load, rated deflection, and overload capacity for each vibration isolation device.
 - 2. Illustrate and indicate style, material, strength, fastening provision, and finish for each type and size of vibration isolation device type required.

- B. Shop Drawings:

- 1. Detail fabrication and assembly of equipment bases. Detail fabrication including anchorages and attachments to structure and to supported equipment.



1.5 INFORMATIONAL SUBMITTALS

- A. Coordination Drawings: Show coordination of vibration isolation device installation for plumbing piping and equipment with other systems and equipment in the vicinity, including other supports and restraints, if any.
- B. Qualification Data: For testing agency.
- C. Welding certificates.
- D. Air-Mounting System Performance Certification: Include natural frequency, load, and damping test data performed by an independent agency.

1.6 QUALITY ASSURANCE

- A. Refer to DDC General Conditions Section 01 40 00 "Quality Requirements".
- B. Welding Qualifications: Qualify procedures and personnel according to AWS D1.1/D1.1M, "Structural Welding Code - Steel."

PART 2 - PRODUCTS

2.1 ELASTOMERIC ISOLATION PADS

- A. Elastomeric Isolation Pads:
 - 1. Fabrication: Single or multiple layers of sufficient durometer stiffness for uniform loading over pad area.
 - 2. Size: Factory or field cut to match requirements of supported equipment.
 - 3. Pad Material: Oil and water resistant with elastomeric properties.
 - 4. Surface Pattern: Ribbed or Waffle pattern.
 - 5. Infused nonwoven cotton or synthetic fibers.
 - 6. Sandwich-Core Material: Resilient and elastomeric.
 - a. Surface Pattern: Ribbed or Waffle pattern.
 - b. Infused nonwoven cotton or synthetic fibers.

2.2 ELASTOMERIC ISOLATION MOUNTS

- A. Double-Deflection, Elastomeric Isolation Mounts:
 - 1. Mounting Plates:
 - a. Top Plate: Encapsulated steel load transfer top plates, factory drilled and threaded with threaded studs or bolts.



- b. Baseplate: Encapsulated steel bottom plates with holes provided for anchoring to support structure.
- 2. Elastomeric Material: Molded, oil-resistant rubber, neoprene, or other elastomeric material.

2.3 OPEN-SPRING ISOLATORS

A. Freestanding, Laterally Stable, Open-Spring Isolators:

- 1. Outside Spring Diameter: Not less than 80 percent of the compressed height of the spring at rated load.
- 2. Minimum Additional Travel: 50 percent of the required deflection at rated load.
- 3. Lateral Stiffness: More than 80 percent of rated vertical stiffness.
- 4. Overload Capacity: Support 200 percent of rated load, fully compressed, without deformation or failure.
- 5. Baseplates: Factory-drilled steel plate for bolting to structure with an elastomeric isolator pad attached to the underside. Baseplates shall limit floor load to 500 psig (3447 kPa).
- 6. Top Plate and Adjustment Bolt: Threaded top plate with adjustment bolt and cap screw to fasten and level equipment.

2.4 RESILIENT PIPE GUIDES

A. Description: Telescopic arrangement of two steel tubes or post and sleeve arrangement separated by a minimum 1/2-inch- (13-mm-) thick neoprene

- 1. Factory-Set Height Guide with Shear Pin: Shear pin shall be removable and reinsertable to allow for selection of pipe movement. Guides shall be capable of motion to meet location requirements.

2.5 ELASTOMERIC HANGERS

A. Elastomeric Mount in a Steel Frame with Upper and Lower Steel Hanger Rods:

- 1. Frame: Steel, fabricated with a connection for an upper threaded hanger rod and an opening on the underside to allow for a maximum of 30 degrees of angular lower hanger-rod misalignment without binding or reducing isolation efficiency.
- 2. Dampening Element: Molded, oil-resistant rubber, neoprene, or other elastomeric material with a projecting bushing for the underside opening preventing steel to steel contact.

2.6 SPRING HANGERS

A. Combination Coil-Spring and Elastomeric-Insert Hanger with Spring and Insert in Compression:



1. Frame: Steel, fabricated for connection to threaded hanger rods and to allow for a maximum of 30 degrees of angular hanger-rod misalignment without binding or reducing isolation efficiency.
2. Outside Spring Diameter: Not less than 80 percent of the compressed height of the spring at rated load.
3. Minimum Additional Travel: 50 percent of the required deflection at rated load.
4. Lateral Stiffness: More than 80 percent of rated vertical stiffness.
5. Overload Capacity: Support 200 percent of rated load, fully compressed, without deformation or failure.
6. Elastomeric Element: Molded, oil-resistant rubber or neoprene. Steel-washer-reinforced cup to support spring and bushing projecting through bottom of frame.
7. Adjustable Vertical Stop: Steel washer with neoprene washer "up-stop" on lower threaded rod.
8. Self-centering hanger rod cap to ensure concentricity between hanger rod and support spring coil.

PART 3 - EXECUTION

3.1 EXECUTION REQUIREMENTS

- A. Refer to DDC General Conditions for execution requirements.

3.2 EXAMINATION

- A. Examine areas and equipment to receive vibration isolation control devices for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
- B. Examine roughing-in of reinforcement and cast-in-place anchors to verify actual locations before installation.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.
- D. Installation of vibration isolators must not cause any change of position of equipment, piping, or ductwork resulting in stresses or misalignment.

END OF SECTION 220548.13



SECTION 220553 - IDENTIFICATION FOR PLUMBING PIPING AND EQUIPMENT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The following documents apply to all required work for the Project: (1) the Contract Drawings, (2) the Specifications, (3) the General Conditions, (4) the Addendum and (5) the Contract (City of New York Standard Construction Contract).

1.2 SUMMARY

- A. Section Includes:

- 1. Equipment labels.
- 2. Pipe labels.
- 3. Stencils.
- 4. Valve tags.

1.3 SUBMITTALS PROCEDURES

- A. Refer to DDC General Conditions Section 01 33 00 “Submittal Procedures”.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Samples: For color, letter style, and graphic representation required for each identification material and device.
- C. Equipment Label Schedule: Include a listing of all equipment to be labeled with the proposed content for each label.
- D. Valve numbering scheme.
- E. Valve Schedules: For each piping system to include in maintenance manuals.

1.5 QUALITY ASSURANCE

- A. Refer to DDC General Conditions Section 01 40 00 “Quality Requirements”.



PART 2 - PRODUCTS

2.1 EQUIPMENT LABELS

A. Metal Labels for Equipment:

1. Material and Thickness: Brass, 0.032-inch (0.8-mm), aluminum, 0.032-inch (0.8-mm) or, anodized aluminum, 0.032-inch (0.8-mm) minimum thickness and having predrilled or stamped holes for attachment hardware.
2. Letter Color: Black
3. Background Color: White.
4. Minimum Label Size: Length and width vary for required label content, but not less than 2-1/2 by 3/4 inch (64 by 19 mm).
5. Minimum Letter Size: 1/4 inch (6.4 mm) for name of units if viewing distance is less than 24 inches (600 mm), 1/2 inch (13 mm) for viewing distances up to 72 inches (1830 mm), and proportionately larger lettering for greater viewing distances. Include secondary lettering two-thirds to three-quarters the size of principal lettering.
6. Fasteners: Stainless-steel rivets or self-tapping screws.
7. Adhesive: Contact-type permanent adhesive, compatible with label and with substrate.

B. Plastic Labels for Equipment:

1. Material and Thickness: Multilayer, multicolor, plastic labels for mechanical engraving, 1/8 inch (3.2 mm) thick, and having predrilled holes for attachment hardware.
2. Letter Color: White
3. Background Color: Black
4. Maximum Temperature: Able to withstand temperatures up to 160 deg F (71 deg C).
5. Minimum Label Size: Length and width vary for required label content, but not less than 2-1/2 by 3/4 inch (64 by 19 mm).
6. Minimum Letter Size: 1/4 inch (6.4 mm) for name of units if viewing distance is less than 24 inches (600 mm), 1/2 inch (13 mm) for viewing distances up to 72 inches (1830 mm), and proportionately larger lettering for greater viewing distances. Include secondary lettering two-thirds to three-quarters the size of principal lettering.
7. Fasteners: Stainless-steel rivets or self-tapping screws.
8. Adhesive: Contact-type permanent adhesive, compatible with label and with substrate.

C. Label Content: Include equipment's Drawing designation or unique equipment number, drawing numbers where equipment is indicated (plans, details, and schedules), and the Specification Section number and title where equipment is specified.

D. Equipment Label Schedule: For each item of equipment to be labeled, on 8-1/2-by-11-inch (A4) bond paper. Tabulate equipment identification number and identify Drawing numbers where equipment is indicated (plans, details, and schedules) and the Specification Section number and title where equipment is specified. Equipment schedule shall be included in operation and maintenance data.

2.2 PIPE LABELS

A. General Requirements for Manufactured Pipe Labels: Preprinted, color-coded, with lettering indicating service, and showing flow direction.



- B. Pretensioned Pipe Labels: Pre-coiled, semirigid plastic formed to partially cover circumference of pipe and to attach to pipe without fasteners or adhesive.
- C. Self-Adhesive Pipe Labels: Printed plastic with contact-type, permanent-adhesive backing.
- D. Pipe Label Contents: Include identification of piping service using same designations or abbreviations as used on Drawings; also include pipe size and an arrow indicating flow direction.
 - 1. Flow-Direction Arrows: Integral with piping-system service lettering to accommodate both directions or as separate unit on each pipe label to indicate flow direction.
 - 2. Lettering Size: Size letters according to ASME A13.1 for piping At least 1-1/2 inch (13 mm) for viewing distances up to 72 inches (1830 mm) and proportionately larger lettering for greater viewing distances.

2.3 STENCILS

- A. Stencils for Piping:
 - 1. Lettering Size: Size letters according to ASME A13.1 for piping] At least 1/2 inch (13 mm) for viewing distances up to 72 inches (1830 mm) and proportionately larger lettering for greater viewing distances.
 - 2. Stencil Material: Aluminum, Brass, or metal.
 - 3. Stencil Paint: Exterior, gloss, alkyd enamel or acrylic enamel in colors complying with recommendations in ASME A13.1 unless otherwise indicated. Paint may be in pressurized spray-can form.
 - 4. Identification Paint: Exterior, alkyd enamel or acrylic enamel in colors according to ASME A13.1 unless otherwise indicated. Paint may be in pressurized spray-can form.

2.4 VALVE TAGS

- A. Plumbing valve tags:
 - 1. Tag Material: Brass, 0.032-inch (0.8-mm) or aluminum, 0.032-inch (0.8-mm) minimum thickness and having predrilled or stamped holes for attachment hardware.
 - 2. Fasteners: Brass wire-link chain or beaded chain.
 - 3. Stamped or engraved with 1/4-inch letters and 1/2-inch (13 mm) numbers
- B. Valve Schedules: For each piping system, on 8-1/2-by-11-inch (A4) bond paper. Tabulate valve number, piping system, system abbreviation (as shown on valve tag), location of valve (room or space), normal-operating position (open, closed, or modulating), and variations for identification. Mark valves for emergency shutoff and similar special uses.
 - 1. Valve-tag schedule shall be included in operation and maintenance data.
 - 2. Warning Tags: Preprinted or partially preprinted, accident-prevention tags, of plasticized card stock with matte finish suitable for writing. Fasteners: Brass grommet and wire.
 - 3. Nomenclature: Large-size primary caption such as "DANGER," "CAUTION," or "DO NOT OPERATE."
 - 4. Color: Yellow background with black lettering.



PART 3 - EXECUTION

3.1 EXECUTION REQUIREMENTS

- A. Refer to DDC General Conditions for execution requirements.

3.2 PREPARATION

- A. Clean piping and equipment surfaces of substances that could impair bond of identification devices, including dirt, oil, grease, release agents, and incompatible primers, paints, and encapsulants.

3.3 GENERAL INSTALLATION REQUIREMENTS

- A. Coordinate installation of identifying devices with completion of covering and painting of surfaces where devices are to be applied.
- B. Coordinate installation of identifying devices with locations of access panels and doors.
- C. Install identifying devices before installing acoustical ceilings and similar concealment.

3.4 EQUIPMENT LABEL INSTALLATION

- A. Install or permanently fasten labels on each major item of mechanical equipment.
- B. Locate equipment labels where accessible and visible.

3.5 PIPE LABEL INSTALLATION

- A. Stenciled Pipe Label Option: Stenciled labels may be provided instead of manufactured pipe labels, at Installer's option. Install stenciled pipe labels, complying with ASME A13.1, with painted, color-coded bands or rectangles on each piping system.
 - 1. Identification Paint: Use for contrasting background.
 - 2. Stencil Paint: Use for pipe marking.
- B. Pipe Label Locations: Locate pipe labels where piping is exposed or above accessible ceilings in finished spaces; machine rooms; accessible maintenance spaces such as shafts, tunnels, and plenums; and exterior exposed locations as follows:
 - 1. Near each valve and control device.
 - 2. Near each branch connection, excluding short takeoffs for fixtures and terminal units. Where flow pattern is not obvious, mark each pipe at branch.
 - 3. Near penetrations through walls, floors, ceilings, and inaccessible enclosures.
 - 4. At access doors, manholes, and similar access points that permit view of concealed piping.
 - 5. Near major equipment items and other points of origination and termination.



6. Spaced at maximum intervals of 50 feet (15 m) along each run. Reduce intervals to 25 feet (7.6 m) in areas of congested piping and equipment.
 7. On piping above removable acoustical ceilings. Omit intermediately spaced labels.
- C. Directional Flow Arrows: Arrows shall be used to indicate direction of flow in pipes, including pipes where flow is allowed in both directions.
- D. Pipe Label Color Schedule:
1. Domestic Water Piping
 - a. Background: Safety green.
 - b. Letter Colors: White
 2. Sanitary Waste and Storm Drainage Piping:
 - a. Background Color: Safety black.
 - b. Letter Color: White.

3.6 VALVE-TAG INSTALLATION

- A. Install tags on valves and control devices in piping systems, except check valves, valves within factory-fabricated equipment units, shutoff valves, faucets, convenience and lawn-watering hose connections, and similar roughing-in connections of end-use fixtures and units. List tagged valves in a valve schedule.
- B. Valve-Tag Application Schedule: Tag valves according to size, shape, and color scheme and with captions similar to those indicated in the following subparagraphs:
1. Valve-Tag Size and Shape:
 - a. Cold Water: 2 inches (50 mm), round
 - b. Hot Water: 2 inches (50 mm), round.
 2. Valve-Tag Colors:
 - a. Cold Water: Natural
 - b. Hot Water: Natural
 3. Letter Colors:
 - a. Cold Water: black
 - b. Hot Water: black
- C. WARNING-TAG INSTALLATION: Write required message on, and attach warning tags to, equipment and other items where required.

END OF SECTION 220553



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SECTION 221423 - STORM DRAINAGE PIPING SPECIALTIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The following documents apply to all required work for the Project: (1) the Contract Drawings, (2) the Specifications, (3) the General Conditions, (4) the Addendum and (5) the Contract (City of New York Standard Construction Contract).

1.2 SUMMARY

- A. Section Includes:
 - 1. Miscellaneous storm drainage piping specialties.
 - 2. Cleanouts.
 - 3. Through-penetration firestop assemblies.
 - 4. Flashing materials.

1.3 SUBMITTALS PROCEDURES

- A. Refer to DDC General Conditions Section 01 33 00 "Submittal Procedures".

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated.

1.5 QUALITY ASSURANCE

- A. Refer to DDC General Conditions Section 01 40 00 "Quality Requirements".
- B. Drainage piping specialties shall bear label, stamp, or other markings of specified testing agency.

PART 2 - PRODUCTS

2.1 CLEANOUTS

- A. Test Tees for exposed metal cleanouts:
 - 1. Size: Same as connected drainage piping.
 - 2. Body Material: Hub-and-spigot, cast-iron soil-pipe T-branch or hub-less, cast-iron soil-pipe test tee as required to match connected piping.
 - 3. Closure Plug: Countersunk or raised head, or brass with seal.
 - 4. Closure Plug Size: Same as or not more than one size smaller than cleanout size.



5. Standard: ASME A112.36.2M for cast iron cleanout.
6. Design product: MIFAB, INC, Smith, Jay R Mfg Co. and Wade

2.2 THROUGH-PENETRATION FIRESTOP ASSEMBLIES

- A. Through-Penetration Firestop Assemblies: See Editing Instruction No. 1 in the Evaluations for cautions about naming manufacturers.
 1. Standard: ASTM E 814, for through-penetration firestop assemblies.
 2. Certification and Listing: for through-penetration firestop assemblies.
 3. Size: Same as connected pipe.
 4. Sleeve: Molded PVC plastic, of length to match slab thickness and with integral nailing flange on one end for installation in cast-in-place concrete slabs.
 5. Stack Fitting: ASTM A 48/A 48M, gray-iron, hubless-pattern, wye branch with neoprene O-ring at base and gray-iron plug in thermal-release harness. Include PVC protective cap for plug.
 6. Special Coating: Corrosion resistant on interior of fittings.

2.3 FLASHING MATERIALS

- A. Zinc-Coated Steel Sheet: ASTM A 653/A 653M, with 0.20 percent copper content and 0.04-inch (1.01-mm) minimum thickness unless otherwise indicated. Include G90 (Z275) hot-dip galvanized, mill-phosphatized finish for painting if indicated.
- B. Elastic Membrane Sheet: ASTM D 4068, flexible, chlorinated polyethylene, 40-mil (1.01-mm) minimum thickness.
- C. Fasteners: Metal compatible with material and substrate being fastened.
- D. Metal Accessories: Sheet metal strips, clamps, anchoring devices, and similar accessory units required for installation; matching or compatible with material being installed.
- E. Design Product: Jay R. Smith, Model no. 1740, Josam, Model no. 26450, MIFAB, Model no. MI-910, Zurn, model no. Z-196 or approved equal.
- F. Coating: Bituminous, SSPC-Paint 12, solvent-type, bituminous mastic.

PART 3 - EXECUTION

3.1 EXECUTION REQUIREMENTS

- A. Refer to DDC General Conditions for execution requirements.

3.2 INSTALLATION

- A. Install cleanouts in aboveground piping and building drain piping according to the following instructions unless otherwise indicated:



1. Use cleanouts the same size as drainage piping up to NPS 4 (DN 100). Use NPS 4 (DN 100) for larger drainage piping unless larger cleanout is indicated.
2. Locate cleanouts at each change in direction of piping greater than 45 degrees.
3. Locate cleanouts at minimum intervals of 50 feet (15 m) for piping NPS 4 (DN 100) and smaller piping.
4. Locate cleanouts at base of each vertical soil and waste stack.

B. Install test tees in vertical conductors and near floor.

C. Install wall cleanouts in vertical conductors. Install access door in wall if indicated.

D. Install sleeve flashing device with each conductor passing through floors with waterproof membrane.

3.3 CONNECTIONS

A. Comply with requirements of general arrangement of piping, fittings, and specialties indicated in drawings.

3.4 FLASHING INSTALLATION

A. Fabricate flashing from single piece of metal unless large pans, sumps, or other drainage shapes are required. Join flashing according to the following if required:

1. Lead Sheets: Burn joints of 6.0-lb/sq. ft. (30-kg/sq. m) lead sheets, 0.0938-inch (2.4-mm) thickness or thicker. Solder joints of 4.0-lb/sq. ft. (20-kg/sq. m) lead sheets, 0.0625-inch (1.6-mm) thickness or thinner.

B. Install sheet flashing on pipes, sleeves, and specialties passing through or embedded in floors and roofs with waterproof membrane.

1. Pipe Flashing: Sleeve type, matching the pipe size, with a minimum length of 10 inches (250 mm) and with skirt or flange extending at least 8 inches (200 mm) around pipe.
2. Sleeve Flashing: Flat sheet, with skirt or flange extending at least 8 inches (200 mm) around sleeve.

C. Set flashing on floors and roofs in solid coating of bituminous cement.

D. Secure flashing into sleeve and specialty clamping ring or device.

E. Fabricate and install flashing and pans, sumps, and other drainage shapes.

3.5 PROTECTION

A. Protect drains during remainder of construction period to avoid clogging with dirt or debris and to prevent damage from traffic or construction work.

B. Place plugs in ends of uncompleted piping at end of each day or when work stops.



END OF SECTION 221423



SECTION 221429 - SUMP PUMPS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The following documents apply to all required work for the Project: (1) the Contract Drawings, (2) the Specifications, (3) the General Conditions, (4) the Addendum and (5) the Contract (City of New York Standard Construction Contract).

1.2 SUMMARY

- A. Section Includes:
 - 1. Submersible sump pumps.

1.3 SUBMITTALS PROCEDURES

- A. Refer to DDC General Conditions Section 01 33 00 "Submittal Procedures".

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated. Include construction details, material descriptions, dimensions of components and profiles. Also Include rated capacities, operating characteristics, electrical characteristics, and performance curves of selected model, any specialties and accessories.
- B. Wiring Diagrams: For power, signal, and control wiring.

1.5 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data: For pumps and controls, to include in emergency etc in operation and maintenance manuals.

1.6 QUALITY ASSURANCE

- A. Refer to DDC General Conditions Section 01 40 00 "Quality Requirements".
- B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, article 100 by a qualified testing agency, and marked for intended location and application.
- C. UL Compliance: Comply with UL 778 for motor-operated water pumps.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Retain shipping flange protective covers and protective coatings during storage.



- B. Protect bearings and couplings against damage.
- C. Comply with pump manufacturer's written rigging instructions for handling.
- D. Coordinate size with existing concrete pit.

PART 2 - PRODUCTS

2.1 SUBMERSIBLE SUMP PUMPS

A. Manufacturers

1. Submersible, Fixed-Position, Single-Seal Sump Pumps:
 - a. Federal Pump Corp., Bell & Gossett Domestic Pump; ITT Industries, Barnes: Crane Pumps & systems, Zoeller Company.
 - b. Or approved equal.
2. Description: Factory-assembled and -tested sump-pump unit, centrifugal, & closed coupled design, all bronze construction available.
3. Pump Type: Submersible, closed -coupled design, single-stage, close-coupled, overhung-impeller locked firmly to motor shaft, centrifugal sump pump as defined in ANSI/HI 1.1-1.2 and ANSI/HI 1.3, complying with UL778.
4. Pump Casing: Cast iron pump volutes, with strainer inlet, legs that elevate pump to permit flow into impeller, and vertical discharge with companion flange for piping connection.
5. Impeller: Statically and dynamically balanced, stainless steel or corrosion-resistant material, ASTM A 48/A 48M, Class No. 25 A cast iron ASTM A 532/A 532M, abrasion-resistant cast iron and design for clear wastewater handling, and keyed and secured to shaft.
6. Pump and Motor Shaft: Stainless steel shaft, with factory-sealed, grease-lubricated ball bearings, built-in overload protection.
7. Seal: Mechanical, double-mechanical seals.
8. Power Cord: fully sealed waterproof power cord, standard cord length.
9. Float Switch: automatic operation by integral submersible float switch. To be mounted on the discharge pipe of the pump.
10. Accessories include, magnetic starters, control panel, long travel float switches, high water alarms, lift chains, bracket for guide pipe, 3/4" galvanized steel guide pipe (by contractor), include welded angle iron grouting frame and heavy steel cover for concrete pit
11. Cover and frame to be treated with corrosion resistant coating, with the cover to have openings for cables and discharge & vent pipe connections with a removal plate for maintenance.
12. Motor: Hermetically sealed, capacitor-start type; with built-in overload protection; lifting eye or lug; and three-conductor, waterproof power cable of length required and with grounding plug and cable-sealing assembly for connection at pump. Include Moisture-Sensing Probe: Internal moisture sensor with moisture alarm.
 - a. Motor Housing Fluid: Oil.
 - b. Pump Discharge Piping: Factory or field fabricated, ASTM A 53/A 53M, Schedule 40, galvanized-steel pipe.



13. Controls:

- a. Enclosure: NEMA 250, Type 1
- b. Switch Type: Mechanical-float type in NEMA 250, Type 6 enclosures, Pedestal-mounted float switch with float rods and rod buttons and electric cables.
- c. Automatic Alternator: Start pumps on successive cycles and start multiple pumps if one cannot handle load.
- d. Float Guides: Pipe or other restraint for floats and rods in basins of depth greater than 60 inches (1500 mm).
- e. High-Water Alarm: Cover-mounted, Rod-mounted, NEMA 250, compression-probe alarm, with electric bell; 120-V ac, with transformer and contacts for remote electric alarm bell.
- f. Control Panel, oil minder stand-alone control panel with an oil probe assembly to set off an alarm to prompt immediate action for the presence of high water or oil levels. The system can be configured with a narrow probe for the application needed to alert users of water & oil levels.
- g. Manufacturers
 - 1) STANCOR model SE40
 - 2) LIBERTY PUMPS- OIL. Tector System-ELV Autovalve Series
 - 3) SKIM OIL – LLC (Elevator Sump pump Systems)
 - 4) OILSPOTTER – OIL. (Detection Sump System)
 - 5) Or approved equal.
- h. Control panel shall include pilot lights for power, water present, oil present, silence button, high level water and oil alarms, etc.
- i. Pit Cover: Cast iron or steel with bituminous coating and strong enough to support controls.

B. Control-Interface Features:

1. Remote Alarm Contacts: For remote alarm interface, to be coordinated with maintenance department on where or who shall be the contact for the alarm.
2. Building Automation System Interface: Auxiliary contacts in pump controls for interface to building automation system and capable of providing the following:
 - a. On-off status of pump.
 - b. Alarm status.
 - c. High water and oil levels.

2.2 SUMP PUMP CAPACITIES AND CHARACTERISTICS

- A. Unit Capacity: 50 GPM (L/minute).
- B. Number of Pumps: One.
- C. Each Pump:
 1. Capacity: 50 gpm (L/minute).
 2. Total Dynamic Head: 12 feet (kPa).
 3. Speed: 1750 rpm.



4. Discharge Size: 1-1/2" NPS (DN).
5. Electrical Characteristics:

- a. Motor Horsepower: 1/3
- b. Volts: 120
- c. Phases: Single
- d. Hertz: 60.

D. Unit Electrical Characteristics:

1. Refer to schedule for manufacturer and data.

2.3 MOTORS

- A. Comply with NEMA designation, temperature rating, service factor, enclosure type, and efficiency requirements for motors specified in Section 220513 "Common Motor Requirements for Plumbing Equipment."

1. Motor Sizes: Minimum size as indicated. If not indicated, large enough so driven load will not require motor to operate in service factor range above 1.0.

- B. Motors for submersible pumps shall be hermetically sealed.

2.4 FLEXIBLE CONNECTORS

- A. Manufactures:

1. Anamet, Inc.,
2. Flex-hose Co..Inc,
3. Flexcraft Industries
4. Flex-Weld, Inc.
5. Or approved equal

- B. Description: 125-psig minimum working-pressure rating and ends matching pump connection: Stainless-Steel Flexible Connectors: Corrugated, stainless-steel inner tubing covered with stainless-steel wire braid. Include stainless-steel nipples or flanges, welded to tubing.

PART 3 - EXECUTION

3.1 EXECUTION REQUIREMENTS

- A. Refer to DDC General Conditions for execution requirements.

3.2 EXAMINATION

- A. Examine roughing-in for plumbing piping to verify actual locations of storm drainage piping connections before sump pump installation.



3.3 INSTALLATION

- A. Pump Installation Standards: Comply with ANSI/HI 1.4 for installation of sump pumps.
- B. Install pumps and arrange to provide access for maintenance including removal of motors, impellers, couplings, and accessories.
- C. Set submersible sump pumps on pit floor and adjust leg height accordingly. Make direct connections to drainage piping as shown on the plans.
- D. Fasten pit cover & frame to pit curb / flange. Install cover so top surface is flush with finished floor.
- E. Support piping so weight of piping is not supported by pumps.

3.4 CONNECTIONS

- A. Comply with requirements for piping specified in Drawings indicate general arrangement of piping, fittings, and specialties.
- B. Install piping adjacent to equipment to allow service and maintenance.
- C. Connect drainage piping to pumps. Install discharge piping equal to or greater than size of pump discharge piping. Install flexible connectors adjacent to pumps in discharge piping.
- D. Install check and shutoff valves on discharge piping from the pump. Install unions on pump having threaded pipe connections. Install valves same size as connected piping.
- E. Ground equipment and Connect wiring according to Division 26.

3.5 FIELD QUALITY CONTROL

- A. Manufacturer's Field Service: Engage a factory-authorized service representative to inspect, test, and adjust components, assemblies, and equipment installations, including connections.
- B. Tests and Inspections:
 - 1. Perform each visual and mechanical inspection.
 - 2. Leak Test: After installation, charge system and test for leaks. Repair leaks and retest until no leaks exist.
 - 3. Operational Test: After electrical circuitry has been energized, start units to confirm proper motor rotation and unit operation.
 - 4. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
- C. Pumps and controls will be considered defective if they do not pass tests and inspections.
- D. Prepare test and inspection reports.



3.6 STARTUP SERVICE

- A. Engage a factory-authorized service representative to perform startup service.
 - 1. Complete installation and startup check according to manufacturer's written instructions.
 - 2. Verify bearing lubrication,
 - 3. Disconnect couplings and check motors for proper direction of rotation, verify that pump controls are correct for required application.
- B. Start pump without exceeding safe motor power:
 - 1. Check general mechanical operation of pumps and motors.
 - 2. Test and adjust controls and safeties.
 - 3. Remove and replace damaged and malfunctioning component
 - 4. Pump Controls: Set pump controls for automatic start, stop, and alarm operation as required for system application.
 - 5. Set field-adjustable switches and circuit-breaker trip ranges as indicated, or if not indicated, for normal operation.
 - 6. Verify that pump controls are correct for the required application.
 - 7. Start pump without exceeding safe motor power: start motor, open discharge valves slowly, check general mechanical operation of pump & motor.
 - 8. Test and adjust controls and safeties.
 - 9. Remove and replace damaged and malfunctioning components, test Pump controls for automatic start, stop, and alarm operation as required for system application. Set field adjustable switches and circuit-breaker trip ranges and normal operation.

3.7 ADJUSTING

- A. Adjust pumps to function smoothly & lubricate as recommended by manufacturer.
- B. Adjust control set points.
- C. Occupancy Adjustments: When requested within 12 months of date of Substantial Completion, provide on-site assistance in adjusting system to suit actual occupied conditions. Provide up to two visits to Project outside normal occupancy hours for this purpose.

3.8 INSTRUCTION

- A. Engage a factory-authorized service representative to instruct the City of New York's maintenance personnel to adjust, operate, and maintain controls and pump.

END OF SECTION 221429



SECTION 230513 - COMMON MOTOR REQUIREMENTS FOR HVAC EQUIPMENT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The following documents apply to all required work for the Project: (1) the Contract Drawings, (2) the Specifications, (3) the General Conditions, (4) the Addendum and (5) the Contract (City of New York Standard Construction Contract).

1.2 SUMMARY

- A. Section includes general requirements for single-phase and polyphase, general-purpose, horizontal, small and medium, squirrel-cage induction motors for use on ac power systems up to 600 V and installed at equipment manufacturer's factory or shipped separately by equipment manufacturer for field installation.

1.3 COORDINATION

- A. Coordinate features of motors, installed units, and accessory devices to be compatible with the following:
 - 1. Motor controllers.
 - 2. Torque, speed, and horsepower requirements of the load.
 - 3. Ratings and characteristics of supply circuit and required control sequence.
 - 4. Ambient and environmental conditions of installation location.

1.4 SUBMITTALS PROCEDURES

- A. Refer to DDC General Conditions Section 01 33 00 "Submittal Procedures".

1.5 QUALITY ASSURANCE

- A. Refer to DDC General Conditions Section 01 40 00 "Quality Requirements".

PART 2 - PRODUCTS

2.1 GENERAL MOTOR REQUIREMENTS

- A. Comply with NEMA MG 1 unless otherwise indicated.
- B. Comply with IEEE 841 for severe-duty motors.



2.2 MOTOR CHARACTERISTICS

- A. Duty: Continuous duty at ambient temperature of 40 deg C and at altitude of 3300 feet (1000 m) above sea level.
- B. Capacity and Torque Characteristics: Sufficient to start, accelerate, and operate connected loads at designated speeds, at installed altitude and environment, with indicated operating sequence, and without exceeding nameplate ratings or considering service factor.

2.3 POLYPHASE MOTORS

- A. Description: NEMA MG 1, Design B, medium induction motor.
- B. Efficiency: Energy efficient, as defined in NEMA MG 1.
- C. Service Factor: 1.15.
- D. Multispeed Motors: Variable torque.
 - 1. For motors with 2:1 speed ratio, consequent pole, single winding.
 - 2. For motors with other than 2:1 speed ratio, separate winding for each speed.
- E. Multispeed Motors: Separate winding for each speed.
- F. Rotor: Random-wound, squirrel cage.
- G. Bearings: Regreasable, shielded, antifriction ball bearings suitable for radial and thrust loading.
- H. Temperature Rise: Match insulation rating.
- I. Insulation: Class F.
- J. Code Letter Designation:
 - 1. Motors Smaller than **10 HP**: Manufacturer's standard starting characteristic.
- K. Enclosure Material: Cast iron for motor frame sizes 324T and larger; rolled steel for motor frame sizes smaller than 324T

2.4 POLYPHASE MOTORS WITH ADDITIONAL REQUIREMENTS

- A. Motors Used with Reduced-Voltage and Multispeed Controllers: Match wiring connection requirements for controller with required motor leads. Provide terminals in motor terminal box, suited to control method.
- B. Severe-Duty Motors: Comply with IEEE 841, with 1.15 minimum service factor.



2.5 SINGLE-PHASE MOTORS

- A. Motors larger than 1/20 hp shall be one of the following, to suit starting torque and requirements of specific motor application:
 - 1. Permanent-split capacitor.
 - 2. Split phase.
 - 3. Capacitor start, inductor run.
 - 4. Capacitor start, capacitor run.
- B. Multispeed Motors: Variable-torque, permanent-split-capacitor type.
- C. Bearings: Pre-lubricated, antifriction ball bearings or sleeve bearings suitable for radial and thrust loading.
- D. Motors 1/20 HP and Smaller: Shaded-pole type.
- E. Thermal Protection: Internal protection to automatically open power supply circuit to motor when winding temperature exceeds a safe value calibrated to temperature rating of motor insulation. Thermal-protection device shall automatically reset when motor temperature returns to normal range.

PART 3 - EXECUTION (Not Applicable)

END OF SECTION 230513



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SECTION 230593 - TESTING, ADJUSTING, AND BALANCING FOR HVAC

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The following documents apply to all required work for the Project: (1) the Contract Drawings, (2) the Specifications, (3) the General Conditions, (4) the Addendum and (5) the Contract (City of New York Standard Construction Contract).

1.2 SUMMARY

- A. Section Includes:

- 1. Balancing Air Systems:
 - a. Constant-volume air systems.
- 2. Testing, Adjusting, and Balancing Equipment:
 - a. Motors.
- 3. Testing, adjusting, and balancing existing systems and equipment.
- 4. Sound tests.
- 5. Vibration tests.
- 6. Duct leakage tests.
- 7. Control system verification.

1.3 DEFINITIONS

- A. AABC: Associated Air Balance Council.
- B. BAS: Building automation systems.
- C. NEBB: National Environmental Balancing Bureau.
- D. TAB: Testing, adjusting, and balancing.
- E. TABB: Testing, Adjusting, and Balancing Bureau.
- F. TAB Specialist: An independent entity meeting qualifications to perform TAB work.
- G. TDH: Total dynamic head.

1.4 PREINSTALLATION MEETINGS

- A. TAB Conference: If requested by the Commissioner, conduct a TAB conference at Project site after approval of the TAB strategies and procedures plan to develop a mutual understanding of the details. Provide a minimum of 10 days' advance notice of scheduled meeting time and location.



1. Minimum Agenda Items:

- a. The Contract Documents examination report.
- b. The TAB plan.
- c. Needs for coordination and cooperation of trades and subcontractors.
- d. Proposed procedures for documentation and communication flow.

1.5 SUBMITTALS PROCEDURES

- A. Refer to DDC General Conditions Section 01 33 00 “Submittal Procedures”.

1.6 ACTION SUBMITTALS

A. Sustainable Design Submittals:

1. TAB Report: Documentation indicating that Work complies with ASHRAE/IES 90.1, Section 6.7.2.3 - "System Balancing."

1.7 INFORMATIONAL SUBMITTALS

- A. Qualification Data: Within 30 days of Contractor's Notice to Proceed, submit documentation that the TAB specialist and this Project's TAB team members meet the qualifications specified in "Quality Assurance" Article.
- B. Contract Documents Examination Report: Within 30 days of Contractor's Notice to Proceed, submit the Contract Documents review report as specified in Part 3.
- C. Strategies and Procedures Plan: Within 30 days of Contractor's Notice to Proceed, submit TAB strategies and step-by-step procedures as specified in "Preparation" Article.
- D. System Readiness Checklists: Within 30 days of Contractor's Notice to Proceed, submit system readiness checklists as specified in "Preparation" Article.
- E. Examination Report: Submit a summary report of the examination review required in "Examination" Article.
- F. Certified TAB reports.
- G. Sample report forms.
- H. Instrument calibration reports, to include the following:
 1. Instrument type and make.
 2. Serial number.
 3. Application.
 4. Dates of use.
 5. Dates of calibration.

1.8 QUALITY ASSURANCE

- A. Refer to DDC General Conditions Section 01 40 00 “Quality Requirements”.
- B. TAB Specialists Qualifications: Certified by AABC, and NEBB.



1. TAB Field Supervisor: Employee of the TAB specialist and certified by NEBB.
2. TAB Technician: Employee of the TAB specialist and certified by NEBB as a TAB technician.

- C. Instrumentation Type, Quantity, Accuracy, and Calibration: Comply with requirements in ASHRAE 111, Section 4, "Instrumentation."
- D. ASHRAE 62.1 Compliance: Applicable requirements in ASHRAE 62.1, Section 7.2.2 - "Air Balancing."
- E. ASHRAE/IES 90.1 Compliance: Applicable requirements in ASHRAE/IES 90.1, Section 6.7.2.3 - "System Balancing."

1.9 FIELD CONDITIONS

- A. Full Owner Occupancy: The City of New York will occupy the site and existing building during entire TAB period. Cooperate with The City of New York during TAB operations to minimize conflicts with The City of New York operations.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION

3.1 EXECUTION REQUIREMENTS

- A. Refer to DDC General Conditions for execution requirements.

3.2 EXAMINATION

- A. Examine the Contract Documents to become familiar with Project requirements and to discover conditions in systems designs that may preclude proper TAB of systems and equipment.
- B. Examine installed systems for balancing devices, such as test ports, gage cocks, thermometer wells, flow-control devices, balancing valves and fittings, and manual volume dampers. Verify that locations of these balancing devices are applicable for intended purpose and are accessible.
- C. Examine the approved submittals for HVAC systems and equipment.
- D. Examine design data including HVAC system descriptions, statements of design assumptions for environmental conditions and systems output, and statements of philosophies and assumptions about HVAC system and equipment controls.
- E. Examine equipment performance data including fan and pump curves.
1. Relate performance data to Project conditions and requirements, including system effects that can create undesired or unpredicted conditions that cause reduced capacities in all or part of a system.
 2. Calculate system-effect factors to reduce performance ratings of HVAC equipment when installed under conditions different from the conditions used to rate equipment performance. To calculate system effects for air systems, use tables and charts found in



AMCA 201, "Fans and Systems," or in SMACNA's "HVAC Systems - Duct Design."
Compare results with the design data and installed conditions.

- F. Examine system and equipment installations and verify that field quality-control testing, cleaning, and adjusting specified in individual Sections have been performed.
- G. Examine test reports specified in individual system and equipment Sections.
- H. Examine HVAC equipment and verify that bearings are greased, belts are aligned and tight, filters are clean, and equipment with functioning controls is ready for operation.
- I. Examine strainers. Verify that startup screens have been replaced by permanent screens with indicated perforations.
- J. Examine system pumps to ensure absence of entrained air in the suction piping.
- K. Examine operating safety interlocks and controls on HVAC equipment.
- L. Report deficiencies discovered before and during performance of TAB procedures. Observe and record system reactions to changes in conditions. Record default set points if different from indicated values.

3.3 PREPARATION

- A. Prepare a TAB plan that includes the following:
 - 1. Equipment and systems to be tested.
 - 2. Strategies and step-by-step procedures for balancing the systems.
 - 3. Instrumentation to be used.
 - 4. Sample forms with specific identification for all equipment.
- B. Perform system-readiness checks of HVAC systems and equipment to verify system readiness for TAB work. Include, at a minimum, the following:
 - 1. Airside:
 - a. Verify that leakage and pressure tests on air distribution systems have been satisfactorily completed.
 - b. Duct systems are complete with terminals installed.
 - c. Volume, smoke, and fire dampers are open and functional.
 - d. Clean filters are installed.
 - e. Fans are operating, free of vibration, and rotating in correct direction.
 - f. Variable-frequency controllers' startup is complete, and safeties are verified.
 - g. Automatic temperature-control systems are operational.
 - h. Ceilings are installed.
 - i. Windows and doors are installed.
 - j. Suitable access to balancing devices and equipment is provided.



3.4 GENERAL PROCEDURES FOR TESTING AND BALANCING

- A. Perform testing and balancing procedures on each system according to the procedures contained in AABC's "National Standards for Total System Balance", ASHRAE 111 or SMACNA's "HVAC Systems - Testing, Adjusting, and Balancing" and in this Section.
- B. Cut insulation, ducts, pipes, and equipment cabinets for installation of test probes to the minimum extent necessary for TAB procedures.
 - 1. After testing and balancing, patch probe holes in ducts with same material and thickness as used to construct ducts.
 - 2. After testing and balancing, install test ports and duct access doors that comply with requirements in Section 233300 "Air Duct Accessories."
 - 3. Install and join new insulation that matches removed materials. Restore insulation, coverings, and vapor barrier.
- C. Mark equipment and balancing devices, including damper-control positions, valve position indicators, fan-speed-control levers, and similar controls and devices, with paint or other suitable, permanent identification material to show final settings.
- D. Take and report testing and balancing measurements in inch-pound (IP) units.

3.5 GENERAL PROCEDURES FOR BALANCING AIR SYSTEMS

- A. Prepare test reports for both fans and outlets. Obtain manufacturer's outlet factors and recommended testing procedures. Cross-check the summation of required outlet volumes with required fan volumes.
- B. Prepare schematic diagrams of systems' "as-built" duct layouts.
- C. Check airflow patterns from the outdoor-air louvers and dampers and the return- and exhaust-air dampers through the supply-fan discharge and mixing dampers.
- D. Locate start-stop and disconnect switches, electrical interlocks, and motor starters.
- E. Verify that motor starters are equipped with properly sized thermal protection.
- F. Check dampers for proper position to achieve desired airflow path.
- G. Verify that air duct system is sealed as specified in Section 233113 "Metal Ducts."

3.6 PROCEDURES FOR CONSTANT-VOLUME AIR SYSTEMS

- A. Adjust fans to deliver total indicated airflows within the maximum allowable fan speed listed by fan manufacturer.
 - 1. Measure total airflow.
 - a. Set outside-air, return-air, and relief-air dampers for proper position that simulates minimum outdoor-air conditions.



- b. Where duct conditions allow, measure airflow by Pitot-tube traverse. If necessary, perform multiple Pitot-tube traverses to obtain total airflow.
 - c. Where duct conditions are not suitable for Pitot-tube traverse measurements, a coil traverse may be acceptable.
 - d. If a reliable Pitot-tube traverse or coil traverse is not possible, measure airflow at terminals and calculate the total airflow.
 2. Measure fan static pressures as follows:
 - a. Measure static pressure directly at the fan outlet or through the flexible connection.
 - b. Measure static pressure directly at the fan inlet or through the flexible connection.
 - c. Measure static pressure across each component that makes up the air-handling system.
 - d. Report artificial loading of filters at the time static pressures are measured.
 3. Review Record Documents to determine variations in design static pressures versus actual static pressures. Calculate actual system-effect factors. Recommend adjustments to accommodate actual conditions.
 4. Obtain approval from Commissioner for adjustment of fan speed higher or lower than indicated speed. Comply with requirements in HVAC Sections for air-handling units for adjustment of fans, belts, and pulley sizes to achieve indicated air-handling-unit performance.
 5. Do not make fan-speed adjustments that result in motor overload. Consult equipment manufacturers about fan-speed safety factors. Modulate dampers and measure fan-motor amperage to ensure that no overload occurs. Measure amperage in full-cooling, full-heating, economizer, and any other operating mode to determine the maximum required brake horsepower.
- B. Adjust volume dampers for main duct, submain ducts, and major branch ducts to indicated airflows.
 1. Measure airflow of submain and branch ducts.
 2. Adjust submain and branch duct volume dampers for specified airflow.
 3. Re-measure each submain and branch duct after all have been adjusted.
- C. Adjust air inlets and outlets for each space to indicated airflows.
 1. Set airflow patterns of adjustable outlets for proper distribution without drafts.
 2. Measure inlets and outlets airflow.
 3. Adjust each inlet and outlet for specified airflow.
 4. Re-measure each inlet and outlet after they have been adjusted.
- D. Verify final system conditions.
 1. Re-measure and confirm that minimum outdoor, return, and relief airflows are within design. Readjust to design if necessary.
 2. Re-measure and confirm that total airflow is within design.
 3. Re-measure all final fan operating data, rpms, volts, amps, and static profile.
 4. Mark all final settings.
 5. Test system in economizer mode. Verify proper operation and adjust if necessary.
 6. Measure and record all operating data.



7. Record final fan-performance data.

3.7 GENERAL PROCEDURES FOR HYDRONIC SYSTEMS

- A. Prepare test reports for pumps. Obtain approved submittals and manufacturer-recommended testing procedures. Crosscheck the summation of required coil and heat exchanger flow rates with pump design flow rate.
- B. Prepare schematic diagrams of systems' "as-built" piping layouts.
- C. In addition to requirements in "Preparation" Article, prepare hydronic systems for testing and balancing as follows:
 1. Check flow-control valves for proper position.
 2. Locate start-stop and disconnect switches, electrical interlocks, and motor starters.
 3. Verify that motor starters are equipped with properly sized thermal protection.
 4. Check that air has been purged from the system.

3.8 PROCEDURES FOR CONSTANT-FLOW HYDRONIC SYSTEMS

- A. Adjust pumps to deliver total design gpm.
 1. Measure total water flow from sump pump discharge.
 2. Measure pump TDH as follows:
 - a. Measure discharge pressure directly at the pump outlet flange or in discharge pipe prior to any valves.
 - b. Measure inlet pressure directly at the pump inlet flange or in suction pipe prior to any valves or strainers.
 - c. Convert pressure to head and correct for differences in gage heights.
 - d. Verify pump impeller size by measuring the TDH with the discharge valve closed. Note the point on manufacturer's pump curve at zero flow, and verify that the pump has the intended impeller size.
 - e. With valves open, read pump TDH. Adjust pump discharge valve until design water flow is achieved.
 3. Monitor motor performance during procedures and do not operate motor in an overloaded condition.
- B. Adjust flow-measuring devices installed in mains and branches to design water flows.
 1. Measure flow in main and branch pipes.
 2. Adjust main and branch balance valves for design flow.
 3. Re-measure each main and branch after all have been adjusted.
- C. For systems with pressure-independent valves at terminals:
 1. Measure differential pressure and verify that it is within manufacturer's specified range.
 2. Perform temperature tests after flows have been verified.
- D. Verify final system conditions as follows:



1. Re-measure and confirm that total water flow is within design.
2. Re-measure final pumps' operating data, TDH, volts, amps, and static profile.
3. Mark final settings.

E. Verify that memory stops have been set.

3.9 PROCEDURES FOR MOTORS

A. Motors 1/2 HP and Larger: Test at final balanced conditions and record the following data:

1. Manufacturer's name, model number, and serial number.
2. Motor horsepower rating.
3. Motor rpm.
4. Phase and hertz.
5. Nameplate and measured voltage, each phase.
6. Nameplate and measured amperage, each phase.
7. Starter size and thermal-protection-element rating.
8. Service factor and frame size.
9. Airflow.

3.10 SOUND TESTS

A. After the systems are balanced and construction is Substantially Complete, measure and record sound levels at five (5) locations as designated by the Commissioner.

B. Instrumentation:

1. The sound-testing meter shall be a portable, general-purpose testing meter consisting of a microphone, processing unit, and readout.
2. The sound-testing meter shall be capable of showing fluctuations at minimum and maximum levels and measuring the equivalent continuous sound pressure level (LEQ).
3. The sound-testing meter must be capable of using 1/3 octave band filters to measure mid-frequencies from 31.5 Hz to 8000 Hz.
4. The accuracy of the sound-testing meter shall be plus or minus one decibel.

C. Test Procedures:

1. Perform test at quietest background noise period. Note cause of unpreventable sound that affects test outcome.
2. Equipment should be operating at design values.
3. Calibrate the sound-testing meter prior to taking measurements.
4. Use a microphone suitable for the type of noise levels measured that is compatible with meter. Provide a windshield for outside or in-duct measurements.
5. Record a set of background measurements in dBA and sound pressure levels in the eight un-weighted octave bands 63 Hz to 8000 Hz (NC) with the equipment off.
6. Take sound readings in dBA and sound pressure levels in the eight un-weighted octave bands 63 Hz to 8000 Hz (NC) with the equipment operating.
7. Take readings no closer than 36 inches (900 mm) from a wall, with the meter held or mounted on a tripod.



8. For outdoor measurements, move sound-testing meter slowly and scan area that has the most exposure to noise source being tested. Use A-weighted scale for this type of reading.

D. Reporting:

1. Report shall record the following:
 - a. Location.
 - b. System tested.
 - c. dBA reading.
 - d. Sound pressure level in each octave band with equipment on and off.

3.11 VIBRATION TESTS

A. After systems are balanced and construction is Substantially Complete, measure and record vibration levels on equipment having motor horsepower equal to or greater than 10 Instrumentation:

1. Use portable, battery-operated, and microprocessor-controlled vibration meter with or without a built-in printer.
2. The meter shall automatically identify engineering units, filter bandwidth, amplitude, and frequency scale values.
3. The meter shall be able to measure machine vibration displacement in mils of deflection, velocity in inches per second, and acceleration in inches per second squared.
4. Verify calibration date is current for vibration meter before taking readings.

B. Test Procedures:

1. To ensure accurate readings, verify that accelerometer has a clean, flat surface and is mounted properly.
2. With the unit running, set up vibration meter in a safe, secure location. Connect transducer to meter with proper cables. Hold magnetic tip of transducer on top of the bearing, and measure unit in mils of deflection. Record measurement, then move transducer to the side of the bearing and record in mils of deflection. Record an axial reading in mils of deflection by holding nonmagnetic, pointed transducer tip on end of shaft.
3. Change vibration meter to velocity (inches per second) measurements. Repeat and record above measurements.
4. Record CPM or rpm.
5. Read each bearing on motor, fan, and pump as required. Track and record vibration levels from rotating component through casing to base.

C. Reporting:

1. Report shall record location and the system tested.
2. Include horizontal-vertical-axial measurements for tests.
3. Verify that vibration limits follow Specifications, or, if not specified, follow the General Machinery Vibration Severity Chart or Vibration Acceleration General Severity Chart from the AABC National Standards. Acceptable levels of vibration are normally "smooth" to "good."



4. Include in report General Machinery Vibration Severity Chart, with conditions plotted.

3.12 CONTROLS VERIFICATION

- A. In conjunction with system balancing, perform the following:
 1. Verify temperature control system is operating within the design limitations.
 2. Confirm that the sequences of operation are in compliance with Contract Documents.
 3. Verify that controllers are calibrated and function as intended.
 4. Verify that controller set points are as indicated.
 5. Verify the operation of lockout or interlock systems.
 6. Verify the operation of valve and damper actuators.
 7. Verify that controlled devices are properly installed and connected to correct controller.
 8. Verify that controlled devices travel freely and are in position indicated by controller: open, closed, or modulating.
 9. Verify location and installation of sensors to ensure that they sense only intended temperature, humidity, or pressure.
- B. Reporting: Include a summary of verifications performed, remaining deficiencies, and variations from indicated conditions.

3.13 PROCEDURES FOR TESTING, ADJUSTING, AND BALANCING EXISTING SYSTEMS

- A. Perform a preconstruction inspection of existing equipment that is to remain and be reused.
 1. Measure and record the operating speed, airflow, and static pressure of each fan.
 2. Measure motor voltage and amperage. Compare the values to motor nameplate information.
 3. Check bearings and other lubricated parts for proper lubrication.
 4. Report on the operating condition of the equipment and the results of the measurements taken. Report deficiencies.
- B. Before performing testing and balancing of existing systems, inspect existing equipment that is to remain and be reused to verify that existing equipment has been cleaned and refurbished. Verify the following:
 1. Fans are clean.
 2. Bearings and other parts are properly lubricated.
 3. Deficiencies noted in the preconstruction report are corrected.

3.14 TOLERANCES

- A. Set HVAC system's airflow rates and water flow rates within the following tolerances:
 1. Exhaust Fans and Equipment with Fans: Plus or minus 10 percent
- B. Maintaining pressure relationships as designed shall have priority over the tolerances specified above.



3.15 PROGRESS REPORTING

- A. Initial Construction-Phase Report: Based on examination of the Contract Documents as specified in "Examination" Article, prepare a report on the adequacy of design for systems balancing devices. Recommend changes and additions to systems balancing devices to facilitate proper performance measuring and balancing. Recommend changes and additions to HVAC systems and general construction to allow access for performance measuring and balancing devices.
- B. Status Reports: Prepare 1 progress reports to describe completed procedures, procedures in progress, and scheduled procedures. Include a list of deficiencies and problems found in systems being tested and balanced. Prepare a separate report for each system and each building floor for systems serving multiple floors.

3.16 FINAL REPORT

- A. General: Prepare a certified written report; tabulate and divide the report into separate sections for tested systems and balanced systems.
 - 1. Include a certification sheet at the front of the report's binder, signed and sealed by the certified testing and balancing engineer.
 - 2. Include a list of instruments used for procedures, along with proof of calibration.
 - 3. Certify validity and accuracy of field data.
- B. Final Report Contents: In addition to certified field-report data, include the following:
 - 1. Pump curves.
 - 2. Fan curves.
 - 3. Manufacturers' test data.
 - 4. Field test reports prepared by system and equipment installers.
 - 5. Other information relative to equipment performance; do not include Shop Drawings and Product Data.
- C. General Report Data: In addition to form titles and entries, include the following data:
 - 1. Title page.
 - 2. Name and address of the TAB specialist.
 - 3. Project name.
 - 4. Project location.
 - 5. Architect's name and address.
 - 6. Engineer's name and address.
 - 7. Contractor's name and address.
 - 8. Report date.
 - 9. Signature of TAB supervisor who certifies the report.
 - 10. Table of Contents with the total number of pages defined for each section of the report. Number each page in the report.
 - 11. Summary of contents including the following:
 - a. Indicated versus final performance.
 - b. Notable characteristics of systems.



- c. Description of system operation sequence if it varies from the Contract Documents.
12. Nomenclature sheets for each item of equipment.
13. Data for terminal units, including manufacturer's name, type, size, and fittings.
14. Notes to explain why certain final data in the body of reports vary from indicated values.
15. Test conditions for fans and pump performance forms including the following:
 - a. Settings for outdoor-, and exhaust-air dampers.
 - b. Fan drive settings including settings and percentage of maximum pitch diameter.
- D. System Diagrams: Include schematic layouts of air and hydronic distribution systems. Present each system with single-line diagram and include the following:
 1. Quantities of outdoor, supply, return, and exhaust airflows.
 2. Water and steam flow rates.
 3. Duct, outlet, and inlet sizes.
 4. Pipe and valve sizes and locations.
 5. Terminal units.
 6. Balancing stations.
 7. Position of balancing devices.
- E. Pump Test Reports: Calculate impeller size by plotting the shutoff head on pump curves and include the following:
 1. Unit Data:
 - a. Unit identification.
 - b. Location.
 - c. Service.
 - d. Make and size.
 - e. Model number and serial number.
 - f. Water flow rate in 12 gpm (L/s).
 - g. Water pressure differential in feet of head or psig (kPa).
 - h. Required net positive suction head in feet of head or psig (kPa).
 - i. Pump rpm.
 - j. Impeller diameter in inches (mm).
 - k. Motor make and frame size.
 - l. Motor horsepower and rpm.
 - m. Voltage at each connection.
 - n. Amperage for each phase.
 - o. Full-load amperage and service factor.
 - p. Seal type.
 2. Test Data (Indicated and Actual Values):
 - a. Static head in feet of head or psig (kPa).
 - b. Pump shutoff pressure in feet of head or psig (kPa).
 - c. Actual impeller size in inches (mm).
 - d. Full-open flow rate in gpm (L/s).
 - e. Full-open pressure in feet of head or psig (kPa).



- f. Final discharge pressure in feet of head or psig (kPa).
- g. Final suction pressure in feet of head or psig (kPa).
- h. Final total pressure in feet of head or psig (kPa).
- i. Final water flow rate in gpm (L/s).
- j. Voltage at each connection.
- k. Amperage for each phase.

3.17 VERIFICATION OF TAB REPORT

- A. The TAB specialist's test and balance engineer shall conduct the inspection in the presence of the Commissioner.
- B. If rechecks yield measurements that differ from the measurements documented in the final report by more than the tolerances allowed, the measurements shall be noted as "FAILED."
- C. If the number of "FAILED" measurements is greater than 10 percent of the total measurements checked during the final inspection, the testing and balancing shall be considered incomplete and shall be rejected.
- D. If TAB work fails, proceed as follows:
 - 1. TAB specialists shall recheck all measurements and make adjustments. Revise the final report and balancing device settings to include all changes; resubmit the final report and request a second final inspection.
 - 2. If the second final inspection also fails, Owner may contract the services of another TAB specialist to complete TAB work according to the Contract Documents and deduct the cost of the services from the original TAB specialist's final payment.
 - 3. If the second verification also fails, commissioning authority and design professional may contact AABC Headquarters regarding the AABC National Performance Guaranty.
- E. Prepare test and inspection reports.

3.18 ADDITIONAL TESTS

- A. Within 90 days of completing TAB, perform additional TAB to verify that balanced conditions are being maintained throughout and to correct unusual conditions.
- B. Seasonal Periods: If initial TAB procedures were not performed during near-peak summer and winter conditions, perform additional TAB during near-peak summer and winter conditions.

END OF SECTION 230593



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SECTION 233113 - METAL DUCTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The following documents apply to all required work for the Project: (1) the Contract Drawings, (2) the Specifications, (3) the General Conditions, (4) the Addendum and (5) the Contract (City of New York Standard Construction Contract).

1.2 SUMMARY

- A. Section Includes:

- 1. Single-wall rectangular ducts and fittings.
 - 2. Sheet metal materials.
 - 3. Sealants and gaskets.
 - 4. Hangers and supports.

- B. Related Sections:

- 1. Section 230593 "Testing, Adjusting, and Balancing for HVAC" for testing, adjusting, and balancing requirements for metal ducts.
 - 2. Section 233300 "Air Duct Accessories" for dampers, sound-control devices, duct-mounting access doors and panels, turning vanes, and flexible ducts.

1.3 PERFORMANCE REQUIREMENTS

- A. Structural Performance: Duct hangers and supports shall withstand the effects of gravity loads and stresses within limits and under conditions described in SMACNA's "HVAC Duct Construction Standards - Metal and Flexible"
- B. Airstream Surfaces: Surfaces in contact with the airstream shall comply with requirements in ASHRAE 62.1.

1.4 SUBMITTALS PROCEDURES

- A. Refer to DDC General Conditions Section 01 33 00 "Submittal Procedures".

1.5 ACTION SUBMITTALS

- A. Product Data: For each type of the following products:

- 1. Liners and adhesives.
 - 2. Sealants and gaskets.

- B. Shop Drawings:



1. Fabrication, assembly, and installation, including plans, elevations, sections, components, and attachments to other work.
2. Factory- and shop-fabricated ducts and fittings.
3. Duct layout indicating sizes, configuration, and static-pressure classes.
4. Elevation of top of ducts.
5. Dimensions of main duct runs from building grid lines.
6. Fittings.
7. Seam and joint construction.
8. Equipment installation based on equipment being used on Project.
9. Locations for duct accessories, including dampers, turning vanes, and access doors and panels.
10. Hangers and supports, including methods for duct and building attachment and vibration isolation.

1.6 INFORMATIONAL SUBMITTALS

- A. Coordination Drawings: Plans, drawn to scale, on which the following items are shown and coordinated with each other, using input from installers of the items involved:
 1. Duct installation in congested spaces, indicating coordination with general construction, building components, and other building services. Indicate proposed changes to duct layout.
 2. Suspended ceiling components.
 3. Structural members to which duct will be attached.
 4. Size and location of initial access modules for acoustical tile.
 5. Penetrations of smoke barriers and fire-rated construction.
 6. Items penetrating finished ceiling including the following:
- B. Welding certificates.
- C. Field quality-control reports.

1.7 QUALITY ASSURANCE

- A. Refer to DDC General Conditions Section 01 40 00 "Quality Requirements".
- B. ASHRAE Compliance: Applicable requirements in ASHRAE 62.1, Section 5 - "Systems and Equipment" and Section 7 - "Construction and System Start-up."
- C. ASHRAE/IES Compliance: Applicable requirements in ASHRAE/IES 90.1, Section 6.4.4 - "HVAC System Construction and Insulation."

PART 2 - PRODUCTS

2.1 SINGLE-WALL RECTANGULAR DUCTS AND FITTINGS

- A. General Fabrication Requirements: Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible" based on indicated static-pressure class unless otherwise indicated.



- B. Transverse Joints: Select joint types and fabricate according to SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Figure 2-1, "Rectangular Duct/Transverse Joints," for static-pressure class, applicable sealing requirements, materials involved, duct-support intervals, and other provisions in SMACNA's "HVAC Duct Construction Standards - Metal and Flexible."
- C. Longitudinal Seams: Select seam types and fabricate according to SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Figure 2-2, "Rectangular Duct/Longitudinal Seams," for static-pressure class, applicable sealing requirements, materials involved, duct-support intervals, and other provisions in SMACNA's "HVAC Duct Construction Standards - Metal and Flexible."
- D. Elbows, Transitions, Offsets, Branch Connections, and Other Duct Construction: Select types and fabricate according to SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Chapter 4, "Fittings and Other Construction," for static-pressure class, applicable sealing requirements, materials involved, duct-support intervals, and other provisions in SMACNA's "HVAC Duct Construction Standards - Metal and Flexible."

2.2 SHEET METAL MATERIALS

- A. General Material Requirements: Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible" for acceptable materials, material thicknesses, and duct construction methods unless otherwise indicated. Sheet metal materials shall be free of pitting, seam marks, roller marks, stains, discolorations, and other imperfections.
- B. Galvanized Sheet Steel: Comply with ASTM A 653/A 653M.
 - 1. Galvanized Coating Designation: G90 (Z275).
 - 2. Finishes for Surfaces Exposed to View: Mill phosphatized.
- C. Galvanized Sheet Steel: Comply with ASTM A 653/A 653M.
 - 1. Galvanized Coating Designation: G90 (Z275).
 - 2. Coating Materials: Acceptable to NYC Department of Buildings for use on ducts listed and labeled by an NRTL for compliance with UL 181, Class 1.
- D. Stainless-Steel Sheets: Comply with ASTM A 480/A 480M, Type 304 or 316, as indicated in the "Duct Schedule" Article; cold rolled, annealed, sheet. Exposed surface finish shall be No. 2B, No. 2D, No. 3, or No. 4 as indicated in the "Duct Schedule" Article.
- E. Aluminum Sheets: Comply with ASTM B 209 (ASTM B 209M) Alloy 3003, H14 temper; with mill finish for concealed ducts, and standard, one-side bright finish for duct surfaces exposed to view.
- F. Reinforcement Shapes and Plates: ASTM A 36/A 36M, steel plates, shapes, and bars; black and galvanized.
 - 1. Where black- and galvanized-steel shapes and plates are used to reinforce aluminum ducts, isolate the different metals with butyl rubber, neoprene, or EPDM gasket materials.



- G. Tie Rods: Galvanized steel, 1/4-inch (6-mm) minimum diameter for lengths 36 inches (900 mm) or less; 3/8-inch (10-mm) minimum diameter for lengths longer than 36 inches (900 mm).

2.3 SEALANT AND GASKETS

- A. General Sealant and Gasket Requirements: Surface-burning characteristics for sealants and gaskets shall be a maximum flame-spread index of 25 and a maximum smoke-developed index of 50 when tested according to UL 723; certified by an NRTL & complying with NFPA requirements for class 1 ducts.
- B. Water-Based Joint and Seam Sealant:
1. Application Method: Brush on.
 2. Solids Content: Minimum 65 percent.
 3. Shore A Hardness: Minimum 20.
 4. Water resistant.
 5. Mold and mildew resistant.
 6. VOC: Maximum 75 g/L (less water).
 7. Maximum Static-Pressure Class: 10-inch wg (2500 Pa), positive and negative.
 8. Service: Indoor or outdoor.
 9. Substrate: Compatible with galvanized sheet steel (both PVC coated and bare), stainless steel, or aluminum sheets.
- C. Solvent-Based Joint and Seam Sealant:
1. Application Method: Brush on.
 2. Base: Synthetic rubber resin.
 3. Solvent: Toluene and heptane.
 4. Solids Content: Minimum 60 percent.
 5. Shore A Hardness: Minimum 60.
 6. Water resistant.
 7. Mold and mildew resistant.
 8. Sealant shall have a VOC content of 420 g/L or less.
 9. Sealant shall comply with the testing and product requirements of NYC Department of Buildings.
 10. Maximum Static-Pressure Class: 10-inch wg (2500 Pa), positive or negative.
 11. Service: Indoor or outdoor.
 12. Substrate: Compatible with galvanized sheet steel (both PVC coated and bare), stainless steel, or aluminum sheets.
- D. Flanged Joint Sealant: Comply with ASTM C 920.
1. General: Single-component, acid-curing, silicone, elastomeric.
 2. Type: S.
 3. Grade: NS.
 4. Class: 25.
 5. Use: O.
 6. Sealant shall have a VOC content of 420 g/L or less.
 7. Sealant shall comply with the testing and product requirements of the NYC Department of Buildings.



8. Flange Gaskets: Butyl rubber, neoprene, or EPDM polymer with polyisobutylene plasticizer.

2.4 HANGERS AND SUPPORTS

- A. Hanger Rods for Noncorrosive Environments: Cadmium-plated steel rods and nuts.
- B. Strap and Rod Sizes: Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Table 5-1 (Table 5-1M), "Rectangular Duct Hangers Minimum Size," and Table 5-2, "Minimum Hanger Sizes for Round Duct."
- C. Steel Cables for Galvanized-Steel Ducts: Galvanized steel complying with ASTM A 603.
- D. Steel Cables for Stainless-Steel Ducts: Stainless steel complying with ASTM A 492.
- E. Steel Cable End Connections: Cadmium-plated steel assemblies with brackets, swivel, and bolts designed for duct hanger service; with an automatic-locking and clamping device.
- F. Duct Attachments: Sheet metal screws, blind rivets, or self-tapping metal screws; compatible with duct materials.
 1. Building attachments: concrete inserts, powder-actuated fasteners or structural-steel fasteners appropriate construction materials to which hangers are being attached. Use powder-actuated concrete fasteners for standard-weight aggregate concretes or for slabs more than 4 inches (100 mm) thick.
 2. Exception: Do not use powder-actuated concrete fasteners for lightweight-aggregate concretes or for slabs less than 4 inches (100 mm) thick.

2.5 DUCT FABRICATION

- A. Fabricate ducts, elbows, transitions, offsets, branch connections, and other construction according to SMACNA's "HVAC Duct Construction Standards--Metal and Flexible" and complying with requirements for metal thickness, reinforcing types and intervals, tie-rod applications, and joint types and intervals.

PART 3 - EXECUTION

3.1 EXECUTION REQUIREMENTS

- A. Refer to DDC General Conditions for execution requirements.

3.2 DUCT INSTALLATION

- A. Drawing plans, schematics, and diagrams indicate general location and arrangement of duct system. Indicated duct locations, configurations, and arrangements were used to size ducts and calculate friction loss for air-handling equipment sizing and for other design considerations. Install duct systems as indicated unless deviations to layout are approved on Shop Drawings and Coordination Drawings.



- B. Install ducts according to SMACNA's "HVAC Duct Construction Standards - Metal and Flexible" unless otherwise indicated.
- C. Install ducts in maximum practical lengths.
- D. Install ducts with fewest possible joints.
- E. Install factory- or shop-fabricated fittings for changes in direction, size, and shape and for branch connections.
- F. Unless otherwise indicated, install ducts vertically and horizontally, and parallel and perpendicular to building lines.
- G. Install ducts close to walls, overhead construction, columns, and other structural and permanent enclosure elements of building.
- H. Install ducts with a clearance of 1 inch (25 mm), plus allowance for insulation thickness.
- I. Route ducts to avoid passing through transformer vaults and electrical equipment rooms and enclosures.
- J. Where ducts pass through fire-rated interior partitions and exterior walls, install fire dampers. Comply with requirements in Section 233300 "Air Duct Accessories" for fire and smoke dampers.
- K. Protect duct interiors from moisture, construction debris and dust, and other foreign materials. Comply with SMACNA's "IAQ Guidelines for Occupied Buildings Under Construction,"

3.3 INSTALLATION OF EXPOSED DUCTWORK

- A. Protect ducts exposed in finished spaces from being dented, scratched, or damaged.
- B. Trim duct sealants flush with metal. Create a smooth and uniform exposed bead. Do not use two-part tape sealing system.
- C. Maintain consistency, symmetry, and uniformity in the arrangement and fabrication of fittings, hangers and supports, duct accessories, and air outlets.
- D. Repair or replace damaged sections and finished work that does not comply with these requirements.

3.4 DUCT SEALING

- A. Seal ducts for duct static-pressure, seal classes, and leakage classes specified in "Duct Schedule" Article according to SMACNA's "HVAC Duct Construction Standards - Metal and Flexible."
- B. Seal ducts at a minimum to the following seal classes according to SMACNA's "HVAC Duct Construction Standards - Metal and Flexible":
 - 1. Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible."



2. Outdoor, Supply-Air Ducts: Seal Class A.
3. Outdoor, Exhaust Ducts: Seal Class A.
4. Unconditioned Space, Exhaust Ducts: Seal Class A, which includes all transverse joints and longitudinal seams.
5. Conditioned Space, Supply-Air Ducts in Pressure Classes 2-Inch wg (500 Pa) and Lower: Seal Class A, which includes all transverse joints and longitudinal seams.
6. Return Ducts (Negative Pressure): 1-inch wg (250 Pa).
7. Exhaust Ducts (Negative Pressure): 1-inch wg (250 Pa)
8. All ducts shall be galvanized steel.

3.5 HANGER AND SUPPORT INSTALLATION

- A. Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Chapter 5, "Hangers and Supports."
- B. Building Attachments: Concrete inserts, powder-actuated fasteners, or structural-steel fasteners appropriate for construction materials to which hangers are being attached.
 1. Where practical, install concrete inserts before placing concrete.
 2. Install powder-actuated concrete fasteners after concrete is placed and completely cured.
 3. Do not use powder-actuated concrete fasteners for lightweight-aggregate concretes or for slabs less than 4 inches (100 mm) thick.
- C. Hanger Spacing: Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Table 5-1 (Table 5-1M), "Rectangular Duct Hangers Minimum Size," and supports within 24 inches (610 mm) of each elbow Hangers Exposed to View: Threaded rod and angle or channel supports.
- D. Install upper attachments to structures. Select and size upper attachments with pull-out, tension, and shear capacities appropriate for supported loads and building materials where used.

3.6 CONNECTIONS

- A. Make connections to equipment with flexible connectors complying with Section 233300 "Air Duct Accessories."
- B. Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible" for branch, outlet and inlet, and terminal unit connections.

3.7 FIELD QUALITY CONTROL

- A. Perform tests and inspections.
- B. Leakage Tests:
 1. Comply with SMACNA's "HVAC Air Duct Leakage Test Manual." Submit a test report for each test.
 2. Test the following systems:



- a. Exhaust Ducts with a Pressure Class of 2-Inch wg (500 Pa) or less: Test representative duct sections, selected by commissioner from sections installed, totaling no less than 50 percent of total installed duct area for each designated pressure class.
 - b. Outdoor Air Ducts with a Pressure Class of 2-Inch wg (500 Pa) or less: Test representative duct sections, selected by commissioner from sections installed, totaling no less than 50 percent of total installed duct area for each designated pressure class.
 3. Disassemble, reassemble, and seal segments of systems to accommodate leakage testing and for compliance with test requirements.
 4. Test for leaks before applying external insulation.
 5. Conduct tests at static pressures equal to maximum design pressure of system or section being tested. If static-pressure classes are not indicated, test system at maximum system design pressure. Do not pressurize systems above maximum design operating pressure.
 6. Give seven days' advance notice for testing.
- C. Duct System Cleanliness Tests:
1. Visually inspect duct system to ensure that no visible contaminants are present.
- D. Duct system will be considered defective if it does not pass tests and inspections.
- E. Prepare test and inspection reports.
- 3.8 DUCT CLEANING
- A. Clean new duct system(s) before testing, adjusting, and balancing.
- B. Use service openings for entry and inspection.
- C. Clean the following components by removing surface contaminants and deposits:
1. Exhaust fans including fan housings, plenums (except ceiling supply and return plenums), scrolls, blades or vanes, shafts, baffles, dampers, and drive assemblies.
 2. Outside -air ducts, dampers, actuators, etc.
- D. Mechanical Cleaning Methodology:
1. Clean metal duct systems using mechanical cleaning methods that extract contaminants from within duct systems and remove contaminants from building.
 2. Use mechanical agitation to dislodge debris adhered to interior duct surfaces without damaging integrity of metal ducts, duct liner, or duct accessories.
- 3.9 START UP
- A. Air Balance: Comply with requirements in Section 230593 "Testing, Adjusting, and Balancing for HVAC."



3.10 DUCT SCHEDULE

A. Fabricate ducts with galvanized sheet steel except as otherwise indicated and as follows:

1. Ducts Connected to Equipment Not Listed Above:

- a. Pressure Class: Positive 2-inch wg (500 Pa)
- b. Minimum SMACNA Seal Class: A.
- c. SMACNA Leakage Class for Rectangular: 6.

B. Exhaust Ducts:

1. Ducts Connected to Fans Exhausting (ASHRAE 62.1, Class 1 and 2) Air:

- a. Pressure Class: Negative 1-inch wg (250 Pa).
- b. Minimum SMACNA Seal Class: A
- c. SMACNA Leakage Class for Rectangular: 6 or 12

2. Ducts Connected to Equipment Not Listed Above:

- a. Pressure Class: Positive or negative 2-inch wg (500 Pa) or less
- b. Minimum SMACNA Seal Class: A if negative pressure, and A if positive pressure.
- c. SMACNA Leakage Class for Rectangular: 6, or 12

3. Aluminum Ducts: Aluminum or galvanized sheet steel coated with zinc chromate.

END OF SECTION 233113



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SECTION 233300 - AIR DUCT ACCESSORIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The following documents apply to all required work for the Project: (1) the Contract Drawings, (2) the Specifications, (3) the General Conditions, (4) the Addendum and (5) the Contract (City of New York Standard Construction Contract).

1.2 SUMMARY

- A. Section Includes:
 - 1. Motorized control damper.
 - 2. Flange connectors.
 - 3. Duct-mounted access doors.
 - 4. Duct accessory hardware.
- B. Related Requirements:
 - 1. Comply with NFPA 90A, "Installation of Air Conditioning and Ventilating Systems,"

1.3 SUBMITTALS PROCEDURES

- A. Refer to DDC General Conditions Section 01 33 00 "Submittal Procedures".

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product.
 - 1. Include design item listed for installation.
- B. Shop Drawings: For duct accessories, & equipment assemblies. Include plans, elevations, sections, details and attachments to other work.
 - 1. Detail duct accessories fabrication and installation in ducts and other construction. Include dimensions, weights, loads, and required clearances, and method of field assembly into duct systems and other construction. Include the following:
 - a. Special fittings.
 - b. Manual volume damper installations.
 - c. Wiring Diagrams: For power, signal, and control wiring.



1.5 INFORMATIONAL SUBMITTALS

- A. Coordination Drawings: Reflected ceiling plans, drawn to scale, on which ceiling-mounted access panels and access doors required for access to duct accessories are shown and coordinated with each other, using input from Installers of the items involved.
- B. Source quality-control reports.

1.6 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data: For air duct accessories to include in operation and maintenance manuals.

1.7 QUALITY ASSURANCE

- A. Refer to DDC General Conditions Section 01 40 00 "Quality Requirements".

PART 2 - PRODUCTS

2.1 ASSEMBLY DESCRIPTION

- A. Comply with NFPA 90A, "Installation of Air Conditioning and Ventilating Systems," and with NFPA 90B, "Installation of Warm Air Heating and Air Conditioning Systems."
- B. Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible" for acceptable materials, material thicknesses, and duct construction methods unless otherwise indicated. Sheet metal materials shall be free of pitting, seam marks, roller marks, stains, discolorations, and other imperfections.

2.2 MATERIALS

- A. Galvanized Sheet Steel: Comply with ASTM A 653/A 653M.
 - 1. Galvanized Coating Designation: G90 (Z275).
 - 2. Exposed-Surface Finish: Mill phosphatized.
- B. Stainless-Steel Sheets: Comply with ASTM A 480/A 480M, Type 304, and having a No. 2 finish for concealed ducts and finish for exposed ducts.
- C. Aluminum Sheets: Comply with ASTM B 209 (ASTM B 209M), Alloy 3003, Temper H14; with mill finish for concealed ducts and standard, 1-side bright finish for exposed ducts.
- D. Extruded Aluminum: Comply with ASTM B 221 (ASTM B 221M), Alloy 6063, Temper T6.
- E. Reinforcement Shapes and Plates: Galvanized-steel reinforcement where installed on galvanized sheet metal ducts; compatible materials for aluminum and stainless-steel ducts.



- F. Tie Rods: Galvanized steel, 1/4-inch (6-mm) minimum diameter for lengths 36 inches (900 mm) or less.

2.3 MOTORIZED CONTROL DAMPERS

- A. General Description: AMCA-rated, opposed-blade design; minimum of 0.0635-inch- (1.61-mm) thick, galvanized-steel damper blades with maximum blade width of 8 inches (203 mm).
- B. Low-leakage rating, with linkage outside airstream, and bearing AMCA's Certified Ratings Seal for both air performance and air leakage.
- C. Frames:
 - 1. U or Hat shaped.
 - 2. Minimum 0.094-inch- (2.4-mm-) thick, galvanized sheet steel.
 - 3. Mitered and welded corners.
 - 4. Maximum of 0.1084-inch- (2.8-mm-) thick, galvanized-steel frames with holes for duct mounting
- D. Blades:
 - 1. Multiple blade with maximum blade width of 8 inches (200 mm).
 - 2. Opposed-blade design.
 - 3. Galvanized steel.
 - 4. 0.064 inch (1.62 mm) thick single skin
 - 5. Blade Edging: polystyrene or rubber.
 - 6. Blade Edging: Inflatable seal blade edging, or replaceable rubber seals. Rated for low leakage at less than 10 cfm per sq. ft. (51 L/s per sq. m) of damper area.
 - 7. When tested according to AMCA 500D.
 - 8. Aluminum blades riveted to a steel hub
- E. Blade Axles: 1/2-inch- (13-mm-) diameter; galvanized steel; blade-linkage hardware of zinc-plated steel and brass; ends sealed against blade bearings.
 - 1. Operating Temperature Range: From minus 40 to plus 200 deg F (minus 40 to plus 93 deg C).
- F. Bearings:
 - 1. Oil-impregnated bronze and Stainless-steel sleeve type.
 - 2. Dampers in ducts with pressure classes of 3-inch wg (750 Pa) or less shall have axles full length of damper blades and bearings at both ends of operating shaft.
 - 3. Thrust bearings at each end of every blade.
- G. Jackshaft:
 - 1. Size: 1-inch (25-mm) diameter.
 - 2. Material: Galvanized-steel pipe rotating within pipe-bearing assembly mounted on supports at each mullion and at each end of multiple-damper assemblies.
 - 3. Length and Number of Mountings: As required to connect linkage of each damper in multiple-damper assembly.



H. Damper Hardware:

1. Zinc-plated, die-cast core with dial and handle made of 3/32-inch- (2.4-mm-) thick zinc-plated steel, and a 3/4-inch (19-mm) hexagon locking nut.
2. Include center hole to suit damper operating-rod size.
3. Include elevated platform for insulated duct mounting

2.4 FLANGE CONNECTORS

- A. Description: Add-on or roll-formed, factory-fabricated, slide-on transverse flange connectors, gaskets, and components.
- B. Material: Galvanized steel.
- C. Gage and Shape: Match connecting ductwork.

2.5 DUCT ACCESS PANEL ASSEMBLIE

- A. Labeled according to UL 1978 by an NRTL.
- B. Panel and Frame: Minimum thickness 0.0528-inch (1.3-mm) carbon or 0.0428-inch (1.1-mm) stainless steel.
- C. Fasteners: Carbon or Stainless steel. Panel fasteners shall not penetrate duct wall.
- D. Gasket: Comply with NFPA 96; grease-tight, high-temperature ceramic fiber, rated for minimum 2000 deg F (1093 deg C).
- E. Minimum Pressure Rating: 10-inch wg (2500 Pa), positive or negative.

2.6 DUCT ACCESSORY HARDWARE

- A. Instrument Test Holes: Cast iron or cast aluminum to suit duct material, including screw cap and gasket. Size to allow insertion of pitot tube and other testing instruments and of length to suit duct-insulation thickness.
- B. Adhesives: High strength, quick setting, neoprene based, waterproof, and resistant to gasoline and grease.

PART 3 - EXECUTION

3.1 EXECUTION REQUIREMENTS

- A. Refer to DDC General Conditions for execution requirements.



3.2 INSTALLATION

- A. Install duct accessories according to applicable details in SMACNA's "HVAC Duct Construction Standards - Metal and Flexible" for metal ducts and in NAIMA AH116, "Fibrous Glass Duct Construction Standards," for fibrous-glass ducts.
- B. Install duct accessories of materials suited to duct materials; use galvanized-steel accessories in galvanized-steel and fibrous-glass ducts, stainless-steel accessories in stainless-steel ducts, and aluminum accessories in aluminum ducts.
- C. Compliance with ASHRAE/IESNA 90.1-2004 includes Section 6.4.3.3.3 - "Shutoff Damper Controls," restricts the use of backdraft dampers, and requires control dampers for certain applications. Install backdraft and motorized control dampers at outlet of exhaust fan or exhaust ducts as close as possible to exhaust fan unless otherwise indicated.
- D. To minimize duct noise generated by volume dampers, SMACNA recommends locating dampers at least two duct diameters from fittings and as far away as possible from outlets.
- E. Set dampers to fully open position before testing, adjusting, and balancing.
- F. Install test holes at fan inlets and outlets and elsewhere as indicated.
- G. Install duct access doors on sides of ducts to allow for inspecting, adjusting, and maintaining accessories and equipment at the following locations:
 - 1. Downstream from manual volume dampers, control dampers, backdraft dampers, and equipment.
 - 2. At each change in direction and at maximum 50-foot (15-m) spacing.
 - 3. Motorized Control devices requiring inspection.
 - 4. Elsewhere as indicated.
- H. Install access doors with swing against duct static pressure.
- I. Access Door Sizes:
 - 1. Two-Hand Access: 12 by 6 inches (300 by 150 mm).
- J. Label access doors to indicate the purpose of access door.
- K. Install flexible connectors to connect ducts to equipment.
- L. Install duct test holes where required for testing and balancing purposes.

3.3 FIELD QUALITY CONTROL

- A. Tests and Inspections:
 - 1. Operate dampers to verify full range of movement.
 - 2. Inspect locations of access doors and verify that purpose of access door can be performed.



- B. Final positioning of dampers is specified in Section 230593 "Testing, Adjusting, and Balancing for HVAC".

END OF SECTION 233300



SECTION 233423 - HVAC POWER VENTILATORS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The following documents apply to all required work for the Project: (1) the Contract Drawings, (2) the Specifications, (3) the General Conditions, (4) the Addendum and (5) the Contract (City of New York Standard Construction Contract).

1.2 SUMMARY

- A. Section Includes:
 - 1. In-line centrifugal fans.

1.3 SUBMITTALS PROCEDURES

- A. Refer to DDC General Conditions Section 01 33 00 "Submittal Procedures".

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated. Include rated capacities, operating characteristics, and furnished specialties and accessories. Also include the following:
 - 1. Certified fan performance curves with system operating conditions indicated.
 - 2. Certified fan sound-power ratings.
 - 3. Motor ratings and electrical characteristics, plus motor and electrical accessories.
 - 4. Material thickness and finishes, including color charts.
 - 5. Dampers, including housings, linkages, and operators.
 - 6. Fan speed controllers.
- B. Shop Drawings: Include plans, elevations, sections, details, and attachments to other work.
 - 1. Detail equipment assemblies and indicate dimensions, weights, loads, required clearances, method of field assembly, components, and location and size of each field connection.
 - 2. Wiring Diagrams: For power, signal, and control wiring.
- C. Submittal: For unit hangars and supports indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer licensed in the State of New York responsible for their preparation.

1.5 INFORMATIONAL SUBMITTALS

- A. Coordination Drawings: Reflected ceiling plans and other details, drawn to scale, on which the following items are shown and coordinated with each other, using input from Installers of the items involved:



- B. Field quality-control reports.

1.6 CLOSE OUT SUBMITTALS

- A. Operation and Maintenance Data: For power ventilators to include in emergency, operation, and maintenance manuals.

1.7 QUALITY ASSURANCE

- A. Refer to DDC General Conditions Section 01 40 00 "Quality Requirements".
- B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- C. AMCA Compliance: Fans shall have AMCA-Certified performance ratings and shall bear the AMCA-Certified Ratings Seal.
- D. UL Standards: Power ventilators shall comply with UL 705.
- E. All propellers shall be statically and dynamically balanced to the latest AMCA Standard 204-05 version.

1.8 PERFORMANCE REQUIREMENTS

- A. Project Altitude: Base fan-performance ratings on actual Project site elevations.
- B. Operating Limits: Classify according to AMCA 99.

1.9 COORDINATION

- A. Coordinate size and location of structural-steel support members.
- B. Coordinate sizes and locations of masonry opening with actual equipment provided.
- C. Special Warranty: Manufacturer's standard form in which manufacturer agrees to replace components listed below that fail in materials or workmanship within specified warranty period.
 - 1. Warranty Period: Manufacturer's standard, but not less than 1 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 IN-LINE CENTRIFUGAL FANS

- A. Housing: galvanized steel housing, Split, spun aluminum with aluminum straightening vanes, outlet duct collar with integral spring loaded backdraft damper, sound absorbing insulation, and ceiling mounting, dual galvanized steel scroll design.



- B. Direct-Drive Units: Motor mounted in airstream, plug type disconnect or factory wired to disconnect switch on fan housing; with wheel, inlet cone, and motor on swing-out service door.
- C. Accessories:
 - 1. Variable-Speed Controller: Solid-state control to reduce speed from 100 to less than 50 percent.
 - 2. Volume-Control Damper: Manually operated with quadrant lock, located in fan outlet.
 - 3. Companion Flanges: For inlet and outlet duct connections.
 - 4. Fan Guards: 1/2- by 1-inch (13- by 25-mm) mesh of galvanized steel in removable frame. Provide guard for inlet or outlet for units not connected to ductwork.
 - 5. Motor and Drive Cover (Belt Guard): Epoxy-coated steel.
 - 6. Motor with thermal overload and rated for continuous use.
 - 7. UL 507 listed electric fan.
 - 8. Aluminum grille with white enamel finish.
 - 9. Isolation kit with adjustable mounting bracket for ceiling mounted.

D. Capacities and Characteristics:

- 1. Airflow: 200 cfm.
- 2. Max. input watts: 67
- 3. Fan rpm: 1000
- 4. Motor Size: 0.56 amps (hp).
- 5. Static Pressure: 0.5
- 6. Sones: 4.0
- 7. Electrical Characteristics:
 - a. Volts: 115
 - b. Phase: 1 phase
 - c. Hertz: 60
 - d. Input watts: 59.8
 - e. Amps: 0.56
- 8. Vibration Isolators:
 - a. Type: spring VI hangers, threaded rods, with neoprene pad type if required.
 - b. Static Deflection: 1 inch (25 mm).
- 9. Spark Arrestance Class: C.

2.2 MOTORS

- A. Comply with NEMA designation, temperature rating, service factor, enclosure type, and efficiency requirements for motors specified in Section 230513 "Common Motor Requirements for HVAC Equipment."
 - 1. Motor Sizes: Minimum size as indicated. If not indicated, large enough so driven load will not require motor to operate in service factor range above 1.0.
- B. Enclosure Type: Totally enclosed, fan cooled.



2.3 SOURCE QUALITY CONTROL

- A. Certify sound-power level ratings according to AMCA 301, "Methods for Calculating Fan Sound Ratings from Laboratory Test Data." Factory test fans according to AMCA 300, "Reverberant Room Method for Sound Testing of Fans." Label fans with the AMCA-Certified Ratings Seal.
- B. Certify fan performance ratings, including flow rate, pressure, power, air density, speed of rotation, and efficiency by factory tests according to AMCA 210, "Laboratory Methods of Testing Fans for Aerodynamic Performance Rating." Label fans with the AMCA-Certified Ratings Seal.

PART 3 - EXECUTION

3.1 EXECUTION REQUIREMENTS

- A. Refer to DDC General Conditions for execution requirements.

3.2 INSTALLATION

- A. Equipment Mounting:
 - 1. Comply with requirements for vibration isolation devices.
- B. Install units with clearances for service and maintenance.
- C. Ceiling Units: Suspend units from structure; use steel threaded rods and vibration isolations spring hanger devices.
- D. Label units according to requirements.

3.3 CONNECTIONS

- A. Drawings indicate general arrangement of ducts and duct accessories. Make final duct connections with flexible connectors. Flexible connectors are specified in Section 233300 "Air Duct Accessories."
- B. Install ducts adjacent to power ventilators to allow service and maintenance.
- C. Ground equipment according to Section 260526 "Grounding and Bonding for Electrical Systems."
- D. Connect wiring according to Section 260519 "Low-Voltage Electrical Power Conductors and Cables."

3.4 FIELD QUALITY CONTROL

- A. Perform tests and inspections.



1. Manufacturer's Field Service: Engage a factory-authorized service representative to inspect components, assemblies, and equipment installations, including connections, and to assist in testing.

B. Tests and Inspections:

1. Verify that shipping, blocking, and bracing are removed.
2. Verify that unit is secure on mountings and supporting devices and that connections to ducts and electrical components are complete. Verify that proper thermal-overload protection is installed in motors, starters, and disconnect switches.
3. Verify that cleaning and adjusting are complete.
4. Disconnect fan drive from motor, verify proper motor rotation direction, and verify fan wheel free rotation and smooth bearing operation. Reconnect fan drive system, align and adjust belts, and install belt guards.
5. Adjust damper linkages for proper damper operation.
6. Verify lubrication for bearings and other moving parts.
7. Verify that manual and automatic volume control and fire and smoke dampers in connected ductwork systems are in fully open position.
8. Disable automatic temperature-control operators, energize motor and adjust fan to indicated rpm, and measure and record motor voltage and amperage.
9. Shut unit down and reconnect automatic temperature-control operators.
10. Remove and replace malfunctioning units and retest as specified above.

C. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.

D. Prepare test and inspection reports.

3.5 ADJUSTING

A. Adjust damper linkages for proper damper operation.

B. Adjust belt tension.

C. Comply with requirements in Section 230593 "Testing, Adjusting, and Balancing for HVAC" for testing, adjusting, and balancing procedures.

D. Replace fan and motor pulleys as required to achieve design airflow.

E. Lubricate bearings.

END OF SECTION. 233423



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SECTION 238113.11 - AIR-CONDITIONERS, THROUGH-WALL UNITS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The following documents apply to all required work for the Project: (1) the Contract Drawings, (2) the Specifications, (3) the General Conditions, (4) the Addendum and (5) the Contract (City of New York Standard Construction Contract).

1.2 SUMMARY

- A. Section includes through-the-wall air conditioners.

1.3 SUBMITTALS PROCEDURES

- A. Refer to DDC General Conditions Section 01 33 00 "Submittal Procedures".

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product. Include rated capacities, operating characteristics, electrical characteristics, and furnished specialties and accessories.
- B. Color Samples: For unit cabinet, discharge grille, and exterior louver, and for each color and texture specified.

1.5 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data:—For thru the wall type air conditioners to include in emergency, operation, and maintenance manuals.

1.6 WARRANTY

- A. Special Warranty: Manufacturer agrees to repair or replace components of packaged, terminal air conditioners that fail in materials or workmanship within specified warranty period.
 - 1. Warranty Period for Sealed Refrigeration System: Manufacturer's standard, but not less than (1) one year from date of Substantial Completion, including components and labor.

1.7 QUALITY ASSURANCE

- A. Refer to DDC General Conditions Section 01 40 00 "Quality Requirements".



PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Friedrichs.
- B. Fedders.
- C. Frigidaire.
- D. Whirlpool.
- E. Or approved equal.

2.2 MANUFACTURED UNITS

- A. Description: Factory-assembled and -tested, self-contained, terminal air conditioner with, electric refrigeration system-and temperature controls; fully charged with refrigerant and filled with oil; with cord-connected chassis.
- B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- C. ASHRAE Compliance: Applicable requirements in ASHRAE 62.1, Section 4 - "Outdoor Air Quality," Section 5 - "Systems and Equipment," Section 6 - "Ventilation Rate Procedures," and Section 7 - "Construction and Startup."
- D. ASHRAE/IES Compliance: Applicable requirements in ASHRAE/IES 90.1.
- E. ASHRAE Thermal Comfort: Applicable requirements in ASHRAE 55.
- F. UL listed and ETL performance certified.

2.3 CHASSIS

- A. Cabinet: 0.052-inch- (1.3-mm-) thick galvanized and powder-coated steel with removable front panel with concealed latches.
 - 1. Mounting: Wall with wall sleeve
 - 2. Top: Flat.
 - 3. Discharge Grille: Punched-louver discharge grille allowing four-way discharge-air pattern, tamperproof, and carrying a flame test rating in accordance with UL standard 494.
 - 4. Louvers: Stamped steel with enamel finish; white and/or bronze color.
 - 5. Finish: Baked enamel.
 - 6. Access Door: Hinged door in top of cabinet for access to controls-
 - 7. Cabinet Extension: Matching cabinet in construction and finish, allowing diversion of airflow to adjoining room; with grille.
 - 8. Finish of Interior Surfaces: Surfaces in contact with the airstream shall comply with requirements in ASHRAE 62.1.



9. Wall Sleeves: Galvanized steel with powder-coated paint.
 10. Provide standard grille, premium expanded metal grille with powder coated paint with "WSE" sleeve.
- B. Refrigeration System: Direct-expansion indoor coil with capillary restrictor and hermetically sealed scroll compressor with vibration isolation and overload protection.
1. Indoor Coils: Seamless copper tubes mechanically expanded into aluminum fins.
 2. Accumulator.
 3. Constant-pressure expansion valve.
 4. Reversing valve.
 5. Charge: R-410A.
- C. Indoor Fan: Forward curved, centrifugal; with three-speed motor & three speed fan settings and positive-pressure ventilation damper with] electric operator.
- D. Filters: Washable antimicrobial polyurethane in molded plastic frame.
- E. Condensate Drain: Drain pan and piping to direct condensate to building waste and vent piping.
1. Comply with ASHRAE 62.1 for drain pan construction and connections.

2.4 CONTROLS

- A. Control Module: Unit-mounted digital panel with touchpad temperature control and with touchpad for heating, cooling, and fan operation. Include the following features:
1. Low-Ambient Lockout Control: Prevents cooling-cycle operation below 40 deg F (5 deg C) outdoor air temperature.
 2. Temperature-Limit Control: Prevents occupant from exceeding preset setback or setup temperature.
 3. Reverse-Cycle Defrost: Solid-state sensor monitors frost buildup on indoor coil and reverses unit to melt frost.
- B. Remote Control: Standard unit-mounted controls with remote-mounted, low-voltage, adjustable thermostat with heat anticipator; on-off-cool-auto switch; and on-auto fan switch.

2.5 CAPACITIES AND CHARACTERISTICS

- A. Airflow: 276 cfm
- B. Cooling Capacity:
1. Total: 12,000 Btu/h.
 2. Maximum cooling wattage: 1130W.
 3. Energy-Efficiency Ratio: 10.6
 4. Maximum cooling amperage: 10.1amps.
 5. Power cord length: 6 feet.
 6. Moisture removal per hour: 1.7 pints.



C. Sound:

1. Indoor: thru the wall AC unit must have quiet performance technology.

D. Quiet-master technology:

1. Counterweights.
2. Solid state inner wall.
3. Advanced Airflow Design.
4. High Density insulation and Foam.
5. Aesthetic Engineering Design.
6. Remote Control feature.

E. Electrical Characteristics:

1. Volts: 115-120V.
2. Phase: Single.
3. Hertz: 60.
4. Full-Load Amperes: 10.1.
5. Minimum Circuit Ampacity:
6. Maximum Overcurrent Protection:
7. Circuit Breaker Rating: 125V-15A.
8. Plug Face type: 5-15P

2.6 SOURCE QUALITY CONTROL

- A. Sound-Power Level Ratings: Factory test to comply with AHRI 300, "Sound Rating and Sound Transmission Loss of Packaged Terminal Equipment."
- B. Unit Performance Ratings: Factory test to comply with AHRI 310/380/CSA C744, "Packaged Terminal Air-Conditioners and Heat Pumps."

PART 3 - EXECUTION

3.1 EXECUTION REQUIREMENTS

- A. Refer to DDC General Conditions for execution requirements.

3.2 INSTALLATION

- A. Install units' level and plumb to existing louvre, maintaining manufacturer's recommended clearances and tolerances.
- B. Install wall sleeves in finished wall assembly, seal and weatherproof.
- C. Install and anchor wall sleeves to withstand, without damage to equipment and structure, seismic forces required by New York City Building Code.



3.3 FIELD QUALITY CONTROL

- A. Manufacturer's Field Service: Engage a factory-authorized service representative to test and inspect components, assemblies, and equipment installations, including connections.
- B. Perform the following tests and inspections:
 - 1. Inspect for and remove shipping bolts, blocks, and tie-down straps.
 - 2. After installing window air conditioner and after electrical circuitry has been energized, test for compliance with requirements.
 - 3. Unit is level on angle iron stand and is sealed or gasket to the existing louvre.
 - 4. Unit casing has no visible damage.
 - 5. Compressor, air-cooled condenser coil, and fans have no visible damage.
 - 6. Labels are clearly visible.
 - 7. Controls are connected and operable.
 - 8. Shipping bolts, blocks, and tie-down straps are removed.
 - 9. Filters are installed and clean.
 - 10. Drain pan and drain line are installed correctly.
 - 11. Electrical wiring installation complies with manufacturer's submittal and installation requirements in electrical Sections.
 - 12. Installation: Perform startup checks according to manufacturer's written instructions.
 - 13. Operational Test: After electrical circuitry has been energized, start units to confirm proper motor rotation and unit operation.
 - 14. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
- C. Window air conditioners will be considered defective if they do not pass tests and inspections.
- D. Prepare test and inspection reports.

3.4 ADJUSTING

- A. Adjust initial temperature set points.
- B. Set field-adjustable switches and circuit-breaker trip ranges as indicated.

3.5 DEMONSTRATION

- A. Engage a factory-authorized service representative to instruct the maintenance personnel to adjust, operate, and maintain packaged, terminal air conditioners.

END OF SECTION 238113.11



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SECTION 260500 – COMMON WORK RESULTS FOR ELECTRICAL

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The following documents apply to all required work for the Project: (1) the Contract Drawings, (2) the Specifications, (3) the General Conditions, (4) the Addendum and (5) the Contract (City of New York Standard Construction Contract).

1.2 SUMMARY

- A. Section Includes:

- 1. Electrical equipment coordination and installation.
 - 2. Sleeves for raceways and cables.
 - 3. Sleeve seals.
 - 4. Grout.
 - 5. Common electrical installation requirements.

- B. Energy Code Compliance

- 1. The design is in compliance with New York State Energy Code Conservation Construction Code.

1.3 DEFINITIONS

- A. EPDM: Ethylene-propylene-diene terpolymer rubber.
- B. NBR: Acrylonitrile-butadiene rubber.

1.4 SUBMITTAL PROCEDURES

- A. Refer to DDC General Conditions Section 01 33 00 “Submittal Procedures”.

1.5 SUBMITTALS

- A. Product Data: For sleeve seals.
- B. Sleeves for raceway and cable penetration of non-fire rated construction walls and floors.
- C. Penetrating non- Fire rated Gypsum board assemblies: Galvanized steel sheets:0.0239 inch (minimum thickness, welded longitudinal joints).



1.6 QUALITY ASSURANCE

- A. Refer to DDC General Conditions Section 01 40 00 "Quality Requirements".

1.7 COORDINATION

- A. Coordinate arrangement, mounting, and support of electrical equipment:

1. To allow maximum possible headroom unless specific mounting heights that reduce headroom are indicated.
2. To provide for ease of disconnecting the equipment with minimum interference to other installations.
3. To allow right of way for piping and conduit installed at required slope.
4. So, connecting raceways, cables, wireways, cable trays, and busways will be clear of obstructions and of the working and access space of other equipment.

- B. Coordinate installation of required supporting devices and set sleeves in cast-in-place concrete, masonry walls, and other structural components as they are constructed.

- C. Coordinate location of access panels and doors for electrical items that are behind finished surfaces or otherwise concealed.

- D. Coordinate sleeve selection and application with selection and application of firestopping.

PART 2 - PRODUCTS

2.1 SLEEVES FOR RACEWAYS AND CABLES

- A. Steel Pipe Sleeves: ASTM A 53/A 53M, Type E, Grade B, Schedule 40, galvanized steel, plain ends.

- B. Cast-Iron Pipe Sleeves: Cast or fabricated "wall pipe," equivalent to ductile-iron pressure pipe, with plain ends and integral waterstop, unless otherwise indicated.

- C. Sleeves for Rectangular Openings: Galvanized sheet steel.

1. Minimum Metal Thickness:

- a. For sleeve cross-section rectangle perimeter less than 50 inches and no side more than 16 inches thickness shall be 0.052 inch

2.2 SLEEVE SEALS

- A. Description: Modular sealing device, designed for field assembly, to fill annular space between sleeve and raceway or cable.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following, but are not limited to, the following:



- a. Advance Products & Systems, Inc.
 - b. Calpico, Inc.
 - c. Metraflex Co.
 - d. Pipeline Seal and Insulator, Inc.
 - e. Or approved equal
2. Sealing Elements: EPDM or NBR interlocking links shaped to fit surface of cable or conduit. Include type and number required for material and size of raceway or cable.
3. Pressure Plates Carbon steel. Include two for each sealing element.
4. Connecting Bolts and Nuts: Carbon steel with corrosion-resistant coating of length required to secure pressure plates to sealing elements. Include one for each sealing element.

2.3 GROUT

- A. Nonmetallic, Shrinkage-Resistant Grout: ASTM C 1107, Grade B, factory-packaged, nonmetallic aggregate grout, noncorrosive, nonstaining, mixed with water to consistency suitable for application and a 30-minute working time. Design mix : 5000-psi compressive strength.

PART 3 - EXECUTION

3.1 EXECUTION REQUIREMENTS

- A. Refer to DDC General Conditions for execution requirements.

3.2 COMMON REQUIREMENTS FOR ELECTRICAL INSTALLATION

- A. Comply with NECA 1.
- B. Measure indicated mounting heights to bottom of unit for suspended items and to center of unit for wall-mounting items.
- C. Headroom Maintenance: If mounting heights or other location criteria are not indicated, arrange and install components and equipment to provide maximum possible headroom consistent with these requirements.
- D. Equipment: Install to facilitate service, maintenance, and repair or replacement of components of both electrical equipment and other nearby installations. Connect in such a way as to facilitate future disconnecting with minimum interference with other items in the vicinity.
- E. Right of Way: Give to piping systems installed at a required slope.

3.3 SLEEVE INSTALLATION FOR ELECTRICAL PENETRATIONS

- A. Electrical penetrations occur when raceways, cables, wireways, cable trays, or busways penetrate concrete slabs, concrete or masonry walls, or fire-rated floor and wall assemblies.



- B. Concrete Slabs and Walls: Install sleeves for penetrations unless core-drilled holes or formed openings are used. Install sleeves during erection of slabs and walls.
- C. Use pipe sleeves unless penetration arrangement requires rectangular sleeved opening.
- D. Fire-Rated Assemblies: Install sleeves for penetrations of fire-rated floor and wall assemblies unless openings compatible with firestop system used are fabricated during construction of floor or wall.
- E. Cut sleeves to length for mounting flush with both surfaces of walls.
- F. Extend sleeves installed in floors 2 inches above finished floor level.
- G. Size pipe sleeves to provide 1/4-inch annular clear space between sleeve and raceway or cable, unless indicated otherwise.
- H. Seal space outside of sleeves with grout for penetrations of concrete and masonry
 - 1. Promptly pack grout solidly between sleeve and wall so no voids remain. Tool exposed surfaces smooth; protect grout while curing.
- I. Interior Penetrations of Non-Fire-Rated Walls and Floors: Seal annular space between sleeve and raceway or cable, using joint sealant appropriate for size, depth, and location of joint.
- J. Fire-Rated-Assembly Penetrations: Maintain indicated fire rating of walls, partitions, ceilings, and floors at raceway and cable penetrations. Install sleeves and seal raceway and cable penetration sleeves with firestop materials.
- K. Roof-Penetration Sleeves: Seal penetration of individual raceways and cables with flexible boot-type flashing units applied in coordination with roofing work.
- L. Aboveground, Exterior-Wall Penetrations: Seal penetrations using steel pipe sleeves and mechanical sleeve seals. Select sleeve size to allow for 1-inch annular clear space between pipe and sleeve for installing mechanical sleeve seals.
- M. Underground, Exterior-Wall Penetrations: Install cast-iron pipe sleeves. Size sleeves to allow for 1-inch annular clear space between raceway or cable and sleeve for installing mechanical sleeve seals.

3.4 SLEEVE-SEAL INSTALLATION

- A. Install to seal exterior wall penetrations.
- B. Use type and number of sealing elements recommended by manufacturer for raceway or cable material and size. Position raceway or cable in center of sleeve. Assemble mechanical sleeve seals and install in annular space between raceway or cable and sleeve. Tighten bolts against pressure plates that cause sealing elements to expand and make watertight seal.



3.5 FIRESTOPPING

- A. Apply firestopping to penetrations of fire-rated floor and wall assemblies for electrical installations to restore original fire-resistance rating of assembly

3.6 WASTE MANAGEMENT

- A. Comply with the requirements established by the Contractor to separate and recycle, salvage or reuse cast-offs, surplus and waste material in accordance with the Waste Management Plan.
- B. Arrange for suppliers to take back shipping and packing materials for reuse or recycling to the maximum extent economically feasible or include them in the Waste Management Plan.

END OF SECTION 26 05 00



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SECTION 26 05 01 - BASIC ELECTRICAL MATERIALS AND METHODS

PART 1 - GENERAL

1.1. RELATED DOCUMENTS

A - The following documents apply to all required work for the Project: (1) the Contract Drawings, (2) the Specifications, (3) the General Conditions, (4) the Addendum and (5) the Contract (City of New York Standard Construction Contract).

1.2. SUMMARY

A - This Section includes the following:

1. Electrical equipment coordination and installation.
2. Sleeves for raceways and cables.
3. Sleeve seals.
4. Common electrical installation requirements.

1.3. SUBMITTAL PROCEDURES

A - Refer to DDC General Conditions Section 01 33 00 "Submittal Procedures".

1.4. SUBMITTALS

A - Product Data: For each type of product indicated.

1.5. QUALITY ASSURANCE

A - Refer to DDC General Conditions Section 01 40 00 "Quality Requirements".

1.6. COORDINATION

A - Coordinate arrangement, mounting, and support of electrical equipment:

1. To allow maximum possible headroom unless specific mounting heights that reduce headroom are indicated.
2. To provide for ease of disconnecting the equipment with minimum interference to other installations.
3. To allow right of way for piping and conduit installed at required slope.
4. So, connecting raceways, cables, wireways, cable trays, and busways will be clear of obstructions and of the working and access space of other equipment.

B - Coordinate installation of required supporting devices and set sleeves in cast-in-place concrete, masonry walls, and other structural components as they are constructed.



- C - Coordinate location of access panels and doors for electrical items that are behind finished surfaces or otherwise concealed.
- D - Coordinate electrical testing of electrical, mechanical, and architectural items, so equipment and systems that are functionally interdependent are tested to demonstrate successful interoperability.

PART 2 - PRODUCTS

2.1. SLEEVES FOR RACEWAYS AND CABLES

- A - Steel Pipe Sleeves: ASTM A 53/A 53M, Type E, Grade B, Schedule 40, galvanized steel, plain ends.
- B - Cast-Iron Pipe Sleeves: Cast or fabricated "wall pipe," equivalent to ductile-iron pressure pipe, with plain ends and integral waterstop, unless otherwise indicated.
- C - Coordinate sleeve selection and application with selection and application of firestopping.

2.2. SLEEVE SEALS

- A - Description: Modular sealing device, designed for field assembly, to fill annular space between sleeve and raceway or cable.

1. Manufacturers:

- a. Advance Products & Systems, Inc.
- b. Metraflex Co.
- c. Pipeline Seal and Insulator, Inc.
- d. Or approved equal.

- 2. Sealing Elements: EPDM or NBR interlocking links shaped to fit surface of cable or conduit. Include type and number required for material and size of raceway or cable.
- 3. Pressure Plates: Stainless steel. Include two for each sealing element.
- 4. Connecting Bolts and Nuts: Stainless steel of length required to secure pressure plates to sealing elements. Include one for each sealing element.

PART 3 - EXECUTION

3.1. EXECUTION REQUIREMENTS

- A - Refer to DDC General Conditions for execution requirements.

3.2. COMMON REQUIREMENTS FOR ELECTRICAL INSTALLATION

- A - Comply with NECA 1.



- B - Measure indicated mounting heights to bottom of unit for suspended items and to center of unit for wall-mounting items.
- C - Headroom Maintenance: If mounting heights or other location criteria are not indicated, arrange and install components and equipment to provide maximum possible headroom consistent with these requirements.
- D - Equipment: Install to facilitate service, maintenance, and repair or replacement of components of both electrical equipment and other nearby installations. Connect in such a way as to facilitate future disconnecting with minimum interference with other items in the vicinity.
- E - Right of Way: Give to raceways and piping systems installed at a required slope.

3.3. SLEEVE INSTALLATION FOR ELECTRICAL PENETRATIONS

- A - Electrical penetrations occur when raceways, cables, wireways, cable trays, or busways penetrate concrete slabs, concrete or masonry walls, or fire-rated floor and wall assemblies.
- B - Coordinate sleeve selection and application with selection and application of conduit.
- C - Concrete Slabs and Walls: Install sleeves for penetrations unless core-drilled holes or formed openings are used. Install sleeves during erection of slabs and walls.
- D - Use pipe sleeves unless penetration arrangement requires rectangular sleeved opening.
- E - Fire-Rated Assemblies: Install sleeves for penetrations of fire-rated floor and wall assemblies unless openings compatible with firestop system used are fabricated during construction of floor or wall.
- F - Cut sleeves to length for mounting flush with both surfaces of walls.
- G - Extend sleeves installed in floors 2 inches (50 mm) above finished floor level.
- H - Size pipe sleeves to provide 1/4-inch (6.4-mm) annular clear space between sleeve and raceway or cable unless sleeve seal is to be installed.
- I - Seal space outside of sleeves with grout for penetrations of concrete and masonry.
- J - Interior Penetrations of Non-Fire-Rated Walls and Floors: Seal annular space between sleeve and raceway or cable, using joint sealant appropriate for size, depth, and location of joint.
- K - Fire-Rated-Assembly Penetrations: Maintain indicated fire rating of walls, partitions, ceilings, and floors at raceway and cable penetrations. Install sleeves and seal raceway and cable penetration sleeves with firestop materials.
- L - Roof-Penetration Sleeves: Seal penetration of individual raceways and cables with flexible boot-type flashing units applied in coordination with roofing work.



M - Aboveground, Exterior-Wall Penetrations: Seal penetrations using sleeves and mechanical sleeve seals. Select sleeve size to allow for 1-inch (25-mm) annular clear space between pipe and sleeve for installing mechanical sleeve seals.

3.4. SLEEVE-SEAL INSTALLATION

A - Use type and number of sealing elements recommended by manufacturer for raceway or cable material and size. Position raceway or cable in center of sleeve. Assemble mechanical sleeve seals and install in annular space between raceway or cable and sleeve. Tighten bolts against pressure plates that cause sealing elements to expand and make watertight seal.

3.5. FIRESTOPPING

A - Apply firestopping to electrical penetrations of fire-rated floor and wall assemblies to restore original fire-resistance rating of assembly.

3.6. FIELD QUALITY CONTROL

A - Inspect installed sleeve and sleeve-seal installations and associated firestopping for damage and faulty work.

END OF SECTION 26 05 01



SECTION 26 05 19 - LOW-VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The following documents apply to all required work for the Project: (1) the Contract Drawings, (2) the Specifications, (3) the General Conditions, (4) the Addendum and (5) the Contract (City of New York Standard Construction Contract).

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Building wires and cables rated 600 V and less.
 - 2. Connectors, splices, and terminations rated 600 V and less.
 - 3. Sleeves and sleeve seals for cables.

1.3 DEFINITIONS

- A. EPDM: Ethylene-propylene-diene terpolymer rubber.
- B. NBR: Acrylonitrile-butadiene rubber.

1.4 SUBMITTAL PROCEDURES

- A. Refer to DDC General Conditions Section 01 33 00 "Submittal Procedures".

1.5 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Qualification Data: For testing agency.
- C. Field quality-control test reports.

1.6 QUALITY ASSURANCE

- A. Refer to DDC General Conditions Section 01 40 00 "Quality Requirements".



B. Testing Agency Qualifications: An independent agency, with the experience and capability to conduct the testing indicated, a nationally recognized testing laboratory (NRTL) as defined by OSHA in 29 CFR 1910.7, and that is acceptable to authorities having jurisdiction.

1. Testing Agency's Field Supervisor: Person currently certified by the International Electrical Testing Association or the National Institute for Certification in Engineering Technologies to supervise on-site testing specified in Part 3.

C. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency, and marked for intended use.

D. Comply with NFPA 70.

1.7 COORDINATION

A. Set sleeves in masonry walls.

PART 2 - PRODUCTS

2.1 CONDUCTORS AND CABLES

A. Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include the following:

1. Alcan Products Corporation; Alcan Cable Division.
2. American Insulated Wire Corp.; a Leviton Company.
3. General Cable Corporation.
4. Senator Wire & Cable Company.
5. Southwire Company.
6. Or approved equal.

C. Copper Conductors: Comply with NEMA WC 70.

D. Conductor Insulation: Comply with NEMA WC 70 for Types THHN-THWN.

E. Multiconductor Cable: Comply with NEMA WC 70 for armored cable, Type AC, metal-clad cable, Type MC with ground wire.

2.2 CONNECTORS AND SPLICES

A. Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, the following:

1. AFC Cable Systems, Inc.
2. Hubbell Power Systems, Inc.



3. O-Z/Gedney; EGS Electrical Group LLC.
4. 3M; Electrical Products Division.
5. Tyco Electronics Corp.
6. Or approved equal.

- C. Description: Factory-fabricated connectors and splices of size, ampacity rating, material, type, and class for application and service indicated.

2.3 SLEEVES FOR CABLES

- A. Steel Pipe Sleeves: ASTM A 53/A 53M, Type E, Grade B, Schedule 40, galvanized steel, plain ends.
- B. Cast-Iron Pipe Sleeves: Cast or fabricated "wall pipe," equivalent to ductile-iron pressure pipe, with plain ends and integral waterstop, unless otherwise indicated.
- C. Sleeves for Rectangular Openings: Galvanized sheet steel with minimum 0.138-inch thickness as indicated and of length to suit application.
- D. Coordinate sleeve selection and application with selection and application of firestopping.

2.4 PENETRATION FIRESTOPPING

- A. Penetrations in fire-resistance rated walls with ratings determined per ASTM E814 or UL 1479 base on testing at positive pressure, including floor and ceiling assemblies.
- B. Rating shall be at least 1-hour, but not less than the fire-resistance rating of construction penetrated.
- C. Exposed penetration firestopping with a flame spread and smoke developed indexes of not less than 25 and 50, respectively, as per ASTM E84.
- D. Provide firestopping that complies with the limits according to 40CFR 59, subpart D (EPA Method 24).

PART 3 - EXECUTION

3.1 CONDUCTOR MATERIAL APPLICATIONS

- A. Feeders: Copper. Solid for No. 10 AWG and smaller; stranded for No. 8 AWG and larger.
- B. Branch Circuits: Copper. Solid for No. 10 AWG and smaller; stranded for No. 8 AWG and larger.

3.2 CONDUCTOR INSULATION AND MULTICONDUCTOR CABLE APPLICATIONS AND WIRING METHODS

- A. Service Entrance: Type THHN-THWN, single conductors in raceway.



- B. Exposed Feeders: Type THHN-THWN, single conductors in raceway.
- C. Feeders Concealed in Ceilings, Walls, Partitions, and Crawlspace: Type THHN-THWN, single conductors in raceway.
- D. Feeders Concealed in Concrete, below Slabs-on-Grade, and Underground: Type THHN-THWN, single conductors in raceway.
- E. Feeders Installed below Raised Flooring: Type THHN-THWN, single conductors in raceway.
- F. Branch Circuits Concealed in Ceilings, Walls, and Partitions: Type THHN-THWN, single conductors in raceway or Armored cable, Type AC or Metal-clad cable, Type MC.
- G. Branch Circuits Concealed in Concrete, below Slabs-on-Grade, and Underground: Type THHN-THWN, single conductors in raceway.
- H. Branch Circuits Installed below Raised Flooring: Type THHN-THWN, single conductors in raceway.
- I. Class 1 Control Circuits: Type THHN-THWN, in raceway.
- J. Class 2 Control Circuits: Power-limited cable, concealed in building finishes.

3.3 INSTALLATION OF CONDUCTORS AND CABLES

- A. Conceal cables in finished walls, ceilings, and floors, unless otherwise indicated.
- B. Use manufacturer-approved pulling compound or lubricant where necessary; compound used must not deteriorate conductor or insulation. Do not exceed manufacturer's recommended maximum pulling tensions and sidewall pressure values.
- C. Use pulling means, including fish tape, cable, rope, and basket-weave wire/cable grips, that will not damage cables or raceway.
- D. Install exposed cables parallel and perpendicular to surfaces of exposed structural members, and follow surface contours where possible.
- F. Identify and color-code conductors and cables according to Division 26: Electrical, Section 260553 "Identification for Electrical Systems."

3.4 CONNECTIONS

- A. Tighten electrical connectors and terminals according to manufacturer's published torque-tightening values. If manufacturer's torque values are not indicated, use those specified in UL 486A and UL 486B.
- B. Make splices and taps that are compatible with conductor material and that possess equivalent or better mechanical strength and insulation ratings than unspliced conductors.
 - 1. Use oxide inhibitor in each splice and tap conductor for aluminum conductors.



- C. Wiring at Outlets: Install conductor at each outlet, with at least 6 inches of slack.

3.5 FIRESTOPPING

- A. Apply firestopping to electrical penetrations of fire-rated floor and wall assemblies to restore original fire-resistance rating of assembly accordingly.

3.6 FIELD QUALITY CONTROL

- A. Perform tests and inspections and prepare test reports.

- B. Tests and Inspections:

1. Perform each visual and mechanical inspection and electrical test stated in NETA Acceptance Testing Specification. Certify compliance with test parameters.
3. Infrared Scanning: After Substantial Completion, but not more than 60 days after Final Acceptance, perform an infrared scan of each splice in cables and conductors No. 3 AWG and larger. Remove box and equipment covers so splices are accessible to portable scanner.
 - a. Follow-up Infrared Scanning: Perform an additional follow-up infrared scan of each splice 11 months after date of Substantial Completion.
 - b. Instrument: Use an infrared scanning device designed to measure temperature or to detect significant deviations from normal values. Provide calibration record for device.
 - c. Record of Infrared Scanning: Prepare a certified report that identifies splices checked and that describes scanning results. Include notation of deficiencies detected, remedial action taken, and observations after remedial action.

- D. Test Reports: Prepare a written report to record the following:

1. Test procedures used.
2. Test results that comply with requirements.
3. Test results that do not comply with requirements and corrective action taken to achieve compliance with requirements.

- E. Remove and replace malfunctioning units and retest as specified above.

3.7 CLEANING AND PROTECTION

- A. Clean off excess fill materials adjacent to openings as the Work progresses by methods and with cleaning materials that are approved in writing by penetration firestopping manufacturers and that do not damage materials in which openings occur.
- B. Provide final protection and maintain conditions during and after installation that ensure that penetration firestopping is without damage or deterioration at time of Substantial Completion. If,



despite such protection, damage or deterioration occurs, immediately cut out and remove damaged or deteriorated penetration firestopping and install new materials to produce systems complying with specified requirements.

- C. Proceed with enclosing penetration firestopping with other construction only after inspection reports are issued and installations comply with requirements.

END OF SECTION 26 05 19



SECTION 26 05 26 - GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The following documents apply to all required work for the Project: (1) the Contract Drawings, (2) the Specifications, (3) the General Conditions, (4) the Addendum and (5) the Contract (City of New York Standard Construction Contract).

1.2 SUMMARY

- A. This Section includes methods and materials for grounding systems and equipment.

1.3 SUBMITTALS PROCEDURES

- A. Refer to DDC General Conditions Section 01 33 00 "Submittal Procedures".

1.4 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Field quality-control test reports.

1.5 QUALITY ASSURANCE

- A. Refer to DDC General Conditions Section 01 40 00 "Quality Requirements".
- B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100.
- C. Comply with UL 467 for grounding and bonding materials and equipment.

PART 2 - PRODUCTS

2.1 CONDUCTORS

- A. Insulated Conductors: Copper wire or cable insulated for 600 V.
- B. Bare Copper Conductors:
 - 1. Solid Conductors: ASTM B 3.



2. Stranded Conductors: ASTM B 8.
3. Tinned Conductors: ASTM B 33.
4. Bonding Cable: 28 kcmil, 14 strands of No. 17 AWG conductor, 1/4 inch (6 mm) in diameter.
5. Bonding Conductor: No. 4 or No. 6 AWG, stranded conductor.
6. Bonding Jumper: Copper tape, braided conductors, terminated with copper ferrules; 1-5/8 inches (41 mm) wide and 1/16 inch (1.6 mm) thick.
7. Tinned Bonding Jumper: Tinned-copper tape, braided conductors, terminated with copper ferrules; 1-5/8 inches (41 mm) wide and 1/16 inch (1.6 mm) thick.

2.2 CONNECTORS

- A. Listed and labeled by a nationally recognized testing laboratory for applications in which used, and for specific types, sizes, and combinations of conductors and other items connected.
- B. Bolted Connectors for Conductors and Pipes: Copper or copper alloy, bolted pressure-type, with at least two bolts.
 1. Pipe Connectors: Clamp type, sized for pipe.
- C. Welded Connectors: Exothermic-welding kits of types recommended by kit manufacturer for materials being joined and installation conditions.

PART 3 - EXECUTION

3.1 EXECUTION REQUIREMENTS

- A. Refer to DDC General Conditions for execution requirements.

3.2 APPLICATIONS

- A. Conductors: Install solid conductor for No. 8 AWG and smaller, and stranded conductors for No. 6 AWG and larger, unless otherwise indicated.
- B. Conductor Terminations and Connections:
 1. Pipe and Equipment Grounding Conductor Terminations: Bolted connectors.
 2. Underground Connections: Welded connectors, except at test wells and as otherwise indicated.
 3. Connections to Structural Steel: Welded connectors.

3.3 EQUIPMENT GROUNDING

- A. Install insulated equipment grounding conductors with all feeders and branch circuits.



3.4 INSTALLATION

- A. Grounding Conductors: Route along shortest and straightest paths possible, unless otherwise indicated or required by New York City Electrical Code. Avoid obstructing access or placing conductors where they may be subjected to strain, impact, or damage.
- B. Common Ground Bonding with Lightning Protection System: Comply with NFPA 780 and UL 96 when interconnecting with lightning protection system. Bond electrical power system ground directly to lightning protection system grounding conductor at closest point to electrical service grounding electrode. Use bonding conductor sized same as system grounding electrode conductor and install in conduit.
- C. Bonding Straps and Jumpers: Install in locations accessible for inspection and maintenance, except where routed through short lengths of conduit.
 - 1. Bonding to Structure: Bond straps directly to basic structure, taking care not to penetrate any adjacent parts.
 - 2. Bonding to Equipment Mounted on Vibration Isolation Hangers and Supports: Install so vibration is not transmitted to rigidly mounted equipment.
 - 3. Use exothermic-welded connectors for outdoor locations, but if a disconnect-type connection is required, use a bolted clamp.

3.5 FIELD QUALITY CONTROL

- A. Perform the following tests and inspections and prepare test reports:
 - 1. After installing grounding system but before permanent electrical circuits have been energized, test for compliance with requirements.
 - 2. Test completed grounding system at each location where a maximum ground-resistance level is specified, at service disconnect enclosure grounding terminal.
- B. Report measured ground resistances that exceed the following values:
 - 1. Power and Lighting Equipment or System with Capacity 500 kVA and Less: 10 ohms.
- C. Excessive Ground Resistance: If resistance to ground exceeds specified values, notify Commissioner promptly and include recommendations to reduce ground resistance.

END OF SECTION 26 05 26



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SECTION 26 05 33 - RACEWAY AND BOXES FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The following documents apply to all required work for the Project: (1) the Contract Drawings, (2) the Specifications, (3) the General Conditions, (4) the Addendum and (5) the Contract (City of New York Standard Construction Contract).

1.2 SUMMARY

- A. This Section includes raceways, fittings, boxes, enclosures, and cabinets for electrical wiring.

1.3 DEFINITIONS

- A. EMT: Electrical metallic tubing.
- B. EPDM: Ethylene-propylene-diene terpolymer rubber.
- C. FMC: Flexible metal conduit.
- D. IMC: Intermediate metal conduit.
- E. LFMC: Liquidtight flexible metal conduit.
- F. NBR: Acrylonitrile-butadiene rubber.

1.4 SUBMITTAL PROCEDURES

- A. Refer to DDC General Conditions Section 01 33 00 "Submittal Procedures".

1.5 SUBMITTALS

- A. Product Data: For surface raceways, wireways and fittings, floor boxes, hinged-cover enclosures, and cabinets.
- B. Shop Drawings: For the following raceway components. Include plans, elevations, sections, details, and attachments to other work.
 - 1. Custom enclosures and cabinets.
 - 2. For handholes and boxes for underground wiring, including the following:
 - a. Duct entry provisions, including locations and duct sizes.
 - b. Frame and cover design.
 - c. Grounding details.
 - d. Dimensioned locations of cable rack inserts, and pulling-in and lifting irons.
 - e. Joint details.



C. Coordination Drawings: Conduit routing plans, drawn to scale, on which the following items are shown and coordinated with each other, based on input from installers of the items involved:

1. Structural members in the paths of conduit groups with common supports.
2. HVAC and plumbing items and architectural features in the paths of conduit groups with common supports.

D. Qualification Data: For professional engineer and testing agency.

E. Source quality-control test reports.

1.6 QUALITY ASSURANCE

A. Refer to DDC General Conditions Section 01 40 00 "Quality Requirements".

B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100.

C. Comply with NFPA 70.

PART 2 - PRODUCTS

2.1 METAL CONDUIT AND TUBING

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. AFC Cable Systems, Inc.
2. Alfex Inc.
3. Allied Tube & Conduit; a Tyco International Ltd. Co.
4. Anamet Electrical, Inc.; Anaconda Metal Hose.
5. Electri-Flex Co.
6. Manhattan/CDT/Cole-Flex.
7. Maverick Tube Corporation.
8. O-Z Gedney; a unit of General Signal.
9. Wheatland Tube Company.
10. Or approved equal

B. Rigid Steel Conduit: ANSI C80.1.

C. Aluminum Rigid Conduit: ANSI C80.5.



D. IMC: ANSI C80.6.

E. EMT: ANSI C80.3.

F. FMC: Zinc-coated steel.

G. LFMC: Flexible steel conduit with PVC jacket.

H. Fittings for Conduit (Including all Types and Flexible and Liquidtight), EMT, and Cable: NEMA FB 1; listed for type and size raceway with which used, and for application and environment in which installed.

1. Conduit Fittings for Hazardous (Classified) Locations: Comply with UL 886.

2. Fittings for EMT: setscrew or compression type.

I. Joint Compound for Rigid Steel Conduit or IMC: Listed for use in cable connector assemblies, and compounded for use to lubricate and protect threaded raceway joints from corrosion and enhance their conductivity.

2.2 METAL WIREWAYS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following, or approved equal:

1. Cooper B-Line, Inc.

2. Hoffman.

3. Square D; Schneider Electric.

B. Description: Sheet metal sized and shaped as indicated, NEMA 250, Type 1, unless otherwise indicated.

C. Fittings and Accessories: Include couplings, offsets, elbows, expansion joints, adapters, hold-down straps, end caps, and other fittings to match and mate with wireways as required for complete system.

D. Wireway Covers: Screw-cover type.

E. Finish: Manufacturer's standard enamel finish.

2.3 BOXES, ENCLOSURES, AND CABINETS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following,:

1. Cooper Crouse-Hinds; Div. of Cooper Industries, Inc.

2. EGS/Appleton Electric.



3. Erickson Electrical Equipment Company.
4. Hoffman.
5. Hubbell Incorporated; Killark Electric Manufacturing Co. Division.
6. O-Z/Gedney; a unit of General Signal.
7. RACO; a Hubbell Company.
8. Spring City Electrical Manufacturing Company.
9. Thomas & Betts Corporation.
10. Walker Systems, Inc.; Wiremold Company (The).
11. Or approved equal

B. Sheet Metal Outlet and Device Boxes: NEMA OS 1.

C. Cast-Metal Outlet and Device Boxes: NEMA FB 1, ferrous alloy Type FD, with gasketed cover.

D. Metal Floor Boxes: Cast or sheet metal fully adjustable, rectangular.

E. Small Sheet Metal Pull and Junction Boxes: NEMA OS 1.

F. Cast-Metal Access, Pull, and Junction Boxes: NEMA FB 1, cast aluminum with gasketed cover.

G. Hinged-Cover Enclosures: NEMA 250, Type 1, with continuous-hinge cover with flush latch, unless otherwise indicated.

1. Metal Enclosures: Steel, finished inside and out with manufacturer's standard enamel.

H. Cabinets:

1. NEMA 250, Type 1, galvanized-steel box with removable interior panel and removable front, finished inside and out with manufacturer's standard enamel.
2. Hinged door in front cover with flush latch and concealed hinge.
3. Key latch to match panelboards.
4. Metal barriers to separate wiring of different systems and voltage.
5. Accessory feet where required for freestanding equipment.

2.4 SLEEVES FOR RACEWAYS



- A. Steel Pipe Sleeves: ASTM A 53/A 53M, Type E, Grade B, Schedule 40, galvanized steel, plain ends.
- B. Cast-Iron Pipe Sleeves: Cast or fabricated "wall pipe," equivalent to ductile-iron pressure pipe, with plain ends and integral waterstop, unless otherwise indicated.
- C. Sleeves for Rectangular Openings: Galvanized sheet steel with minimum 0.052-inch thickness as indicated and of length to suit application.
- D. Coordinate sleeve selection and application with selection and application of firestopping.

2.5 SLEEVE SEALS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following or approved equal:
 - 1. Advance Products & Systems, Inc.
 - 2. Calpico, Inc.
 - 3. Metraflex Co.
 - 4. Pipeline Seal and Insulator, Inc.

PART 3 - EXECUTION

3.1 EXECUTION REQUIREMENTS

- A. Refer to DDC General Conditions for execution requirements.

3.2 RACEWAY APPLICATION

- A. Outdoors: Apply raceway products as specified below, unless otherwise indicated:
 - 1. Exposed Conduit: Rigid steel conduit.
 - 2. Concealed Conduit, Aboveground: Rigid steel conduit.
 - 3. Underground Conduit: Rigid steel conduit, direct buried.
 - 4. Connection to Vibrating Equipment (Including Transformers and Hydraulic, Pneumatic, Electric Solenoid, or Motor-Driven Equipment): LFMC.
 - 5. Boxes and Enclosures, Aboveground: NEMA 250, Type 3R
- B. Comply with the following indoor applications, unless otherwise indicated:
 - 1. Exposed, Not Subject to Physical Damage: EMT.
 - 2. Exposed, Not Subject to Severe Physical Damage: EMT.



3. Exposed and Subject to Severe Physical Damage: Rigid steel conduit. Includes raceways in the following locations:
 - a. Loading dock.
 - b. Corridors used for traffic of mechanized carts, forklifts, and pallet-handling units.
 - c. Mechanical rooms.
4. Concealed in Ceilings and Interior Walls and Partitions: EMT.
5. Connection to Vibrating Equipment (Including Transformers and Hydraulic, Pneumatic, Electric Solenoid, or Motor-Driven Equipment): FMC, except use LFMC in damp or wet locations.
6. Damp or Wet Locations: Rigid steel conduit.
7. Boxes and Enclosures: NEMA 250, Type 1, except use NEMA 250, Type 4 in damp or wet locations.

C. Minimum Raceway Size: 3/4-inch trade size.

D. Raceway Fittings: Compatible with raceways and suitable for use and location.

1. Rigid and Intermediate Steel Conduit: Use threaded rigid steel conduit fittings, unless otherwise indicated.

E. Do not install aluminum conduits in contact with concrete.

3.3 INSTALLATION

- A. Comply with NECA 1 for installation requirements applicable to products specified in Part 2 except where requirements on Drawings or in this Article are stricter.
- B. Keep raceways at least 6 inches away from parallel runs of flues and steam or hot-water pipes. Install horizontal raceway runs above water and steam piping.
- C. Complete raceway installation before starting conductor installation.
- D. Arrange stub-ups so curved portions of bends are not visible above the finished slab.
- E. Install no more than the equivalent of three 90-degree bends in any conduit run except for communications conduits, for which fewer bends are allowed.
- F. Conceal conduit and EMT within finished walls, ceilings, and floors, unless otherwise indicated.
- G. Raceways Embedded in Slabs:
 1. Run conduit larger than 1-inch trade size, parallel or at right angles to main reinforcement. Where at right angles to reinforcement, place conduit close to slab support.



2. Arrange raceways to cross building expansion joints at right angles with expansion fittings.
 - H. Threaded Conduit Joints, Exposed to Wet, Damp, Corrosive, or Outdoor Conditions: Apply listed compound to threads of raceway and fittings before making up joints. Follow compound manufacturer's written instructions.
 - I. Raceway Terminations at Locations Subject to Moisture or Vibration: Use insulating bushings to protect conductors, including conductors smaller than No. 4 AWG.
 - J. Install pull wires in empty raceways. Use polypropylene or monofilament plastic line with not less than 200-lb tensile strength. Leave at least 12 inches of slack at each end of pull wire.
 - K. Raceways for Optical Fiber and Communications Cable: Install raceways, metallic rigid and flexible, as follows:
 1. 3/4-Inch Trade Size and Smaller: Install raceways in maximum lengths of 50 feet
 2. 1-Inch Trade Size and Larger: Install raceways in maximum lengths of 75 feet.
 3. Install with a maximum of two 90-degree bends or equivalent for each length of raceway unless Drawings show stricter requirements. Separate lengths with pull or junction boxes or terminations at distribution frames or cabinets where necessary to comply with these requirements.
 - L. Install raceway sealing fittings at suitable, approved, and accessible locations and fill them with listed sealing compound. Install raceway sealing fittings at the following points:
 1. Where conduits pass from warm to cold locations, such as boundaries of refrigerated spaces.
 2. Where otherwise required by NFPA 70.
 - M. Flexible Conduit Connections: Use maximum of 72 inches of flexible conduit for recessed and semirecessed lighting fixtures, equipment subject to vibration, noise transmission, or movement; and for transformers and motors.
 1. Use LFMC in damp or wet locations.
 - N. Recessed Boxes in Masonry Walls: Saw-cut opening for box in center of cell of masonry block, and install box flush with surface of wall.
 - O. Set metal floor boxes level and flush with finished floor surface.
- 3.4 SLEEVE INSTALLATION FOR ELECTRICAL PENETRATIONS
- A. Coordinate sleeve selection and application with selection and application of firestopping.
 - B. Concrete Slabs and Walls: Install sleeves for penetrations unless core-drilled holes or formed openings are used. Install sleeves during erection of slabs and walls.
 - C. Use pipe sleeves unless penetration arrangement requires rectangular sleeved opening.
 - D. Rectangular Sleeve Minimum Metal Thickness:



- E. Fire-Rated Assemblies: Install sleeves for penetrations of fire-rated floor and wall assemblies unless openings compatible with firestop system used are fabricated during construction of floor or wall.
- F. Cut sleeves to length for mounting flush with both surfaces of walls.
- G. Extend sleeves installed in floors 2 inches above finished floor level.
- H. Size pipe sleeves to provide 1/4-inch annular clear space between sleeve and raceway unless sleeve seal is to be installed.
- I. Seal space outside of sleeves with grout for penetrations of concrete and masonry.
- J. Interior Penetrations of Non-Fire-Rated Walls and Floors: Seal annular space between sleeve and raceway, using joint sealant appropriate for size, depth, and location of joint.
- K. Fire-Rated-Assembly Penetrations: Maintain indicated fire rating of walls, partitions, ceilings, and floors at raceway penetrations. Install sleeves and seal with firestop materials.
- L. Roof-Penetration Sleeves: Seal penetration of individual raceways with flexible, boot-type flashing units applied in coordination with roofing work.
- M. Aboveground, Exterior-Wall Penetrations: Seal penetrations using sleeves and mechanical sleeve seals. Select sleeve size to allow for 1-inch annular clear space between pipe and sleeve for installing mechanical sleeve seals.
- N. Underground, Exterior-Wall Penetrations: Install cast-iron "wall pipes" for sleeves. Size sleeves to allow for 1-inch annular clear space between raceway and sleeve for installing mechanical sleeve seals.

3.5 SLEEVE-SEAL INSTALLATION

- A. Install to seal underground, exterior wall penetrations.
- B. Use type and number of sealing elements recommended by manufacturer for raceway material and size. Position raceway in center of sleeve. Assemble mechanical sleeve seals and install in annular space between raceway and sleeve. Tighten bolts against pressure plates that cause sealing elements to expand and make watertight seal.

3.6 FIRESTOPPING

- A. Apply firestopping to electrical penetrations of fire-rated floor and wall assemblies to restore original fire-resistance rating of assembly.

3.7 PROTECTION



A. Provide final protection and maintain conditions that ensure coatings, finishes, and cabinets are without damage or deterioration at time of Substantial Completion.

1. Repair damage to galvanized finishes with zinc-rich paint recommended by manufacturer.
2. Repair damage to paint finishes with matching touchup coating recommended by manufacturer.

END OF SECTION 26 05 33



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SECTION 26 05 53 - IDENTIFICATION FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The following documents apply to all required work for the Project: (1) the Contract Drawings, (2) the Specifications, (3) the General Conditions, (4) the Addendum and (5) the Contract (City of New York Standard Construction Contract).

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Identification for raceway and metal-clad cable.
 - 2. Identification for conductors and communication and control cable.
 - 3. Warning labels and signs.
 - 4. Instruction signs.
 - 5. Equipment identification labels.
 - 6. Miscellaneous identification products.

1.3 SUBMITTAL PROCEDURES

- A. Refer to DDC General Conditions Section 01 33 00 "Submittal Procedures".

1.4 SUBMITTALS

- A. Product Data: For each electrical identification product indicated.
- B. Identification Schedule: An index of nomenclature of electrical equipment and system components used in identification signs and labels.
- C. Samples: For each type of label and sign to illustrate size, colors, lettering style, mounting provisions, and graphic features of identification products.

1.5 QUALITY ASSURANCE

- A. Refer to DDC General Conditions Section 01 40 00 "Quality Requirements".
- B. Comply with ANSI A13.1 and ANSI C2.
- C. Comply with NFPA 70.



- D. Comply with 29 CFR 1910.145.

1.6 COORDINATION

- A. Coordinate identification names, abbreviations, colors, and other features with requirements in the Contract Documents, Shop Drawings, manufacturer's wiring diagrams, and the Operation and Maintenance Manual, and with those required by codes, standards, and 29 CFR 1910.145. Use consistent designations throughout Project.
- B. Coordinate installation of identifying devices with completion of covering and painting of surfaces where devices are to be applied.
- C. Coordinate installation of identifying devices with location of access panels and doors.
- D. Install identifying devices before installing acoustical ceilings and similar concealment.

PART 2 - PRODUCTS

2.1 RACEWAY AND METAL-CLAD CABLE IDENTIFICATION MATERIALS

- A. Comply with ANSI A13.1 for minimum size of letters for legend and for minimum length of color field for each raceway and cable size.
- B. Color for Printed Legend:
 - 1. Power Circuits: Black letters on an orange field.
 - 2. Legend: Indicate system or service and voltage, if applicable.
- C. Self-Adhesive Vinyl Labels: Preprinted, flexible label laminated with a clear, weather- and chemical-resistant coating and matching wraparound adhesive tape for securing ends of legend label.
- D. Snap-Around Labels: Slit, pretensioned, flexible, preprinted, color-coded acrylic sleeves, with diameter sized to suit diameter of raceway or cable it identifies and to stay in place by gripping action.
- E. Snap-Around, Color-Coding Bands: Slit, pretensioned, flexible, solid-colored acrylic sleeves, 2 inches long, with diameter sized to suit diameter of raceway or cable it identifies and to stay in place by gripping action.
- F. Self-Adhesive Vinyl Tape: Colored, heavy duty, waterproof, fade resistant; 2 inches wide; compounded for outdoor use.

2.2 WARNING LABELS AND SIGNS

- A. Comply with NFPA 70 and 29 CFR 1910.145.



- B. Self-Adhesive Warning Labels: Factory printed, multicolor, pressure-sensitive adhesive labels, configured for display on front cover, door, or other access to equipment, unless otherwise indicated.
- C. Baked-Enamel Warning Signs: Preprinted aluminum signs, punched or drilled for fasteners, with colors, legend, and size required for application. 1/4-inch grommets in corners for mounting. Nominal size, 7 by 10 inches.
- D. Metal-Backed, Butyrate Warning Signs: Weather-resistant, nonfading, preprinted, cellulose-acetate butyrate signs with 0.0396-inch galvanized-steel backing; and with colors, legend, and size required for application. 1/4-inch grommets in corners for mounting. Nominal size, 10 by 14 inches.
- E. Warning label and sign shall include the following legends:
 - 1. Multiple Power Source Warning: "DANGER - ELECTRICAL SHOCK HAZARD - EQUIPMENT HAS MULTIPLE POWER SOURCES."
 - 2. Workspace Clearance Warning: "WARNING - OSHA REGULATION - AREA IN FRONT OF ELECTRICAL EQUIPMENT MUST BE KEPT CLEAR FOR 36 INCHES."
 - 3. "ELECTRICAL ROOM – NO STORAGE PERMITTED"

2.3 INSTRUCTION SIGNS

- A. Engraved, laminated acrylic or melamine plastic, minimum 1/16 inch thick for signs up to 20 sq. in. and 1/8 inch thick for larger sizes.
 - 1. Engraved legend with black letters on white face.
 - 2. Punched or drilled for mechanical fasteners.
 - 3. Framed with mitered acrylic molding and arranged for attachment at applicable equipment.

2.4 EQUIPMENT IDENTIFICATION LABELS

- A. Self-Adhesive, Engraved, Laminated Acrylic or Melamine Label: Adhesive backed, with white letters on a dark-gray background. Minimum letter height shall be 3/8 inch.
- B. Stenciled Legend: In nonfading, waterproof, black ink or paint. Minimum letter height shall be 1 inch.

2.5 MISCELLANEOUS IDENTIFICATION PRODUCTS

- A. Cable Ties: Fungus-inert, self-extinguishing, 1-piece, self-locking, Type 6/6 nylon cable ties.
 - 1. Minimum Width: 3/16 inch
 - 2. Tensile Strength: 50 lb, minimum.
 - 3. Temperature Range: Minus 40 to plus 185 deg F.
 - 4. Color: Black, except where used for color-coding.



- B. Fasteners for Labels and Signs: Self-tapping, stainless-steel screws or stainless-steel machine screws with nuts and flat and lock washers.

PART 3 - EXECUTION

3.1 EXECUTION REQUIREMENTS

- A. Refer to DDC General Conditions for execution requirements.

3.2 APPLICATION

- A. Accessible Raceways and Metal-Clad Cables, 600 V or Less, for Service, Feeder, and Branch Circuits More Than 30 A: Identify with orange self-adhesive vinyl label.
- B. Power-Circuit Conductor Identification: For primary and secondary conductors No. 1/0 AWG and larger in vaults, pull and junction boxes, manholes, and handholes use color-coding conductor tape. Identify source and circuit number of each set of conductors. For single conductor cables, identify phase in addition to the above.
- C. Branch-Circuit Conductor Identification: Where there are conductors for more than three branch circuits in same junction or pull box, use color-coding conductor tape. Identify each ungrounded conductor according to source and circuit number.
- D. Auxiliary Electrical Systems Conductor Identification: Identify field-installed alarm, control, signal, sound, intercommunications, voice, and data connections.
 - 1. Identify conductors, cables, and terminals in enclosures and at junctions, terminals, and pull points. Identify by system and circuit designation.
 - 2. Use system of marker tape designations that is uniform and consistent with system used by manufacturer for factory-installed connections.
 - 3. Coordinate identification with Project Drawings, manufacturer's wiring diagrams, and Operation and Maintenance Manual.
- E. Warning Labels for Indoor Cabinets, Boxes, and Enclosures for Power and Lighting: Comply with 29 CFR 1910.145 and apply self-adhesive warning labels. Identify system voltage with black letters on an orange background. Apply to exterior of door, cover, or other access.
 - 1. Equipment with Multiple Power or Control Sources: Apply to door or cover of equipment including, but not limited to, the following:
 - a. Power transfer switches.
 - b. Controls with external control power connections.
 - 2. Equipment Requiring Workspace Clearance According to NFPA 70: Unless otherwise indicated, apply to door or cover of equipment but not on flush panelboards and similar equipment in finished spaces.
- F. Instruction Signs:



1. Operating Instructions: Install instruction signs to facilitate proper operation and maintenance of electrical systems and items to which they connect. Install instruction signs with approved legend where instructions are needed for system or equipment operation.
 2. Emergency Operating Instructions: Install instruction signs with white legend on a red background with minimum 3/8-inch-high letters for emergency instructions at equipment used for power transfer.
- G. Equipment Identification Labels: On each unit of equipment, install unique designation label that is consistent with wiring diagrams, schedules, and Operation and Maintenance Manual. Apply labels to disconnect switches and protection equipment, central or master units, control panels, control stations, terminal cabinets, and racks of each system. Systems include power, lighting, control, communication, signal, monitoring, and alarm systems unless equipment is provided with its own identification.
1. Labeling Instructions:
 - a. Indoor Equipment: Self-adhesive, engraved, laminated acrylic or melamine label. Unless otherwise indicated, provide a single line of text with 1/2-inch-high letters on 1-1/2-inch- high label; where 2 lines of text are required, use labels 2 inches high.
 - b. Outdoor Equipment: Engraved, laminated acrylic or melamine label.
 - c. Elevated Components: Increase sizes of labels and letters to those appropriate for viewing from the floor.
 2. Equipment to Be Labeled:
 - a. Panelboards, electrical cabinets, and enclosures.
 - b. Access doors and panels for concealed electrical items.
 - c. Emergency system boxes and enclosures.
 - d. Disconnect switches.
 - e. Power transfer equipment.
 - f. Power-generating units.

3.3 INSTALLATION

- A. Verify identity of each item before installing identification products.
- B. Location: Install identification materials and devices at locations for most convenient viewing without interference with operation and maintenance of equipment.
- C. Apply identification devices to surfaces that require finish after completing finish work.
- D. Self-Adhesive Identification Products: Clean surfaces before application, using materials and methods recommended by manufacturer of identification device.
- E. System Identification Color Banding for Raceways and Cables: Each color band shall completely encircle cable or conduit. Place adjacent bands of two-color markings in contact, side by side. Locate bands at changes in direction, at penetrations of walls and floors, at 50-foot maximum intervals in straight runs, and at 25-foot maximum intervals in congested areas.



- F. Color-Coding for Phase Identification: Use the colors listed below for ungrounded service, feeder, and branch-circuit conductors.
 - 1. Color shall be factory applied or, for sizes larger than No. 10 AWG.
 - 2. Colors for 208/120-V Circuits:
 - a. Phase A: Black.
 - b. Phase B: Red.
 - c. Phase C: Blue.
 - 3. Field-Applied, Color-Coding Conductor Tape: Apply in half-lapped turns for a minimum distance of 6 inches from terminal points and in boxes where splices or taps are made. Apply last two turns of tape with no tension to prevent possible unwinding. Locate bands to avoid obscuring factory cable markings.
- G. Aluminum Wraparound Marker Labels and Metal Tags: Secure tight to surface of conductor or cable at a location with high visibility and accessibility.
- H. Painted Identification: Prepare surface and apply paint.

END OF SECTION 26 05 53



SECTION 26 24 16 - PANELBOARDS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The following documents apply to all required work for the Project: (1) the Contract Drawings, (2) the Specifications, (3) the General Conditions, (4) the Addendum and (5) the Contract (City of New York Standard Construction Contract).

1.2 SUMMARY

A. Section Includes:

1. Distribution panelboards.
2. Lighting and appliance branch-circuit panelboards.

1.3 SUBMITTAL PROCEDURES

- A. Refer to DDC General Conditions Section 01 33 00 "Submittal Procedures".

1.4 SUBMITTALS

- A. Product Data: For each type of panelboard, switching and overcurrent protective device, transient voltage suppression device, accessory, and component indicated. Include dimensions and manufacturers' technical data on features, performance, electrical characteristics, ratings, and finishes.

- B. Shop Drawings: For each panelboard and related equipment.

1. Include dimensioned plans, elevations, sections, and details. Show tabulations of installed devices, equipment features, and ratings.
2. Detail enclosure types and details for types other than NEMA 250, Type 1.
3. Detail bus configuration, current, and voltage ratings.
4. Short-circuit current rating of panelboards and overcurrent protective devices.
5. Retain first subparagraph below if series rating of overcurrent protective devices is used.
6. Include evidence of NRTL listing for series rating of installed devices.
7. Detail features, characteristics, ratings, and factory settings of individual overcurrent protective devices and auxiliary components.
8. Include wiring diagrams for power, signal, and control wiring.

- C. Field Quality-Control Reports:

1. Test procedures used.
2. Test results that comply with requirements.



3. Results of failed tests and corrective action taken to achieve test results that comply with requirements.
- D. Panelboard Schedules: For installation in panelboards. Submit final versions after load balancing
- E. Operation and Maintenance Data: For panelboards and components to include in emergency, operation, and maintenance manuals. In addition to items specified in General Conditions, include the following:
 1. Manufacturer's written instructions for testing and adjusting overcurrent protective devices.
 2. Time-current curves, including selectable ranges for each type of overcurrent protective device that allows adjustments.

1.5 QUALITY ASSURANCE

- A. Refer to DDC General Conditions Section 01 40 00 "Quality Requirements".
- B. Source Limitations: Obtain panelboards, overcurrent protective devices, components, and accessories from single source from single manufacturer.
- C. Product Selection for Restricted Space: Drawings indicate maximum dimensions for panelboards including clearances between panelboards and adjacent surfaces and other items. Comply with indicated maximum dimensions.
- D. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- E. Comply with NEMA PB 1.
- F. Comply with NFPA 70.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Remove loose packing and flammable materials from inside panelboards; install temporary electric heating (250 W per panelboard) to prevent condensation.

1.7 PROJECT CONDITIONS

- A. Environmental Limitations:
 1. Do not deliver or install panelboards until spaces are enclosed and weathertight, wet work in spaces is complete and dry, work above panelboards is complete, and temporary HVAC system is operating and maintaining ambient temperature and humidity conditions at occupancy levels during the remainder of the construction period.
 2. Rate equipment for continuous operation under the following conditions unless otherwise indicated:



- a. Ambient Temperature: Not exceeding minus 22 deg F to plus 104 deg F.
- b. Altitude: Not exceeding 6600 feet.

B. Service Conditions: NEMA PB 1, usual service conditions, as follows:

1. Ambient temperatures within limits specified.
2. Altitude not exceeding 6600 feet.

1.8 COORDINATION

A. Coordinate layout and installation of panelboards and components with other construction that penetrates walls or is supported by them, including electrical and other types of equipment, raceways, piping, encumbrances to workspace clearance requirements, and adjacent surfaces. Maintain required workspace clearances and required clearances for equipment access doors and panels.

1.9 WARRANTY

A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace transient voltage suppression devices that fail in materials or workmanship within specified warranty period.

1. Warranty Period: One year from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 GENERAL REQUIREMENTS FOR PANELBOARDS

A. Enclosures: Flush- and surface-mounted cabinets.

1. Rated for environmental conditions at installed location.
 - a. Indoor Dry and Clean Locations: NEMA 250, Type 1.
 - b. Outdoor Locations: NEMA 250, Type 3R.
2. Front: Secured to box with concealed trim clamps. For surface-mounted fronts, match box dimensions; for flush-mounted fronts, overlap box.
3. Hinged Front Cover: Entire front trim hinged to box and with standard door within hinged trim cover.
4. Skirt for Surface-Mounted Panelboards: Same gage and finish as panelboard front with flanges for attachment to panelboard, wall, and ceiling or floor.
5. Gutter Extension and Barrier: Same gage and finish as panelboard enclosure; integral with enclosure body. Arrange to isolate individual panel sections.
6. Finishes:
 - a. Panels and Trim: Steel, factory finished immediately after cleaning and pretreating with manufacturer's standard two-coat, baked-on finish consisting of prime coat and thermosetting topcoat.
 - b. Back Boxes: Same finish as panels and trim.



- c. Fungus Proofing: Permanent fungicidal treatment for overcurrent protective devices and other components.
- 7. Directory Card: Inside panelboard door, mounted in metal frame with transparent protective cover.
- B. Incoming Mains Location: Top and bottom.
- C. Phase, Neutral, and Ground Buses:
 - 1. Material: Hard-drawn copper, 98 percent conductivity.
 - 2. Equipment Ground Bus: Adequate for feeder and branch-circuit equipment grounding conductors; bonded to box.
- D. Conductor Connectors: Suitable for use with conductor material and sizes.
 - 1. Material: Hard-drawn copper, 98 percent conductivity.
 - 2. Main and Neutral Lugs: Mechanical type.
 - 3. Ground Lugs and Bus-Configured Terminators: Mechanical type.
 - 4. Subfeed (Double) Lugs: Mechanical type suitable for use with conductor material. Locate at same end of bus as incoming lugs or main device.
- E. Future Devices: Mounting brackets, bus connections, filler plates, and necessary appurtenances required for future installation of devices.
- F. Panelboard Short-Circuit Current Rating: Fully rated to interrupt symmetrical short-circuit current available at terminals.

2.2 DISTRIBUTION PANELBOARDS

- A. Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include the following:
 - 1. Eaton Electrical Inc.; Cutler-Hammer Business Unit.
 - 2. General Electric Company; GE Consumer & Industrial - Electrical Distribution.
 - 3. Siemens Energy & Automation, Inc.
 - 4. Square D; a brand of Schneider Electric.
 - 5. Electro Tech.
 - 6. All City Switchboard Corp.
 - 7. Metropolitan Electric Mfg. Co.
 - 8. Electric Switchboard Co.
 - 9. Galaxy Switchgear Industries.
 - 10. Or approved equal
- B. Panelboards: NEMA PB 1, power and feeder distribution type.
- C. Doors: Door-in-door trim, secured with vault-type latch with tumbler lock; keyed alike,
 - 1. For doors more than 36 inches high, provide two latches, keyed alike.
- D. Mains: lugs only, or main device as indicated on the drawings.



- E. Branch Overcurrent Protective Devices for Circuit-Breaker Frame Sizes 125 A and Smaller: Bolt-on circuit breakers.
- F. Branch Overcurrent Protective Devices for Circuit-Breaker Frame Sizes Larger Than 125 A: Bolt-on circuit breakers.

2.3 LIGHTING AND APPLIANCE BRANCH-CIRCUIT PANELBOARDS

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - 1. Eaton Electrical Inc.; Cutler-Hammer Business Unit.
 - 2. General Electric Company; GE Consumer & Industrial - Electrical Distribution.
 - 3. Siemens Energy & Automation, Inc.
 - 4. Square D; a brand of Schneider Electric.
 - 5. Electro Tech.
 - 6. All City Switchboard Corp.
 - 7. Metropolitan Electric Mfg. Co.
 - 8. Electric Switchboard Co.
 - 9. Or approved equal
- B. Panelboards: NEMA PB 1, lighting and appliance branch-circuit type.
- C. Mains: lugs only, or main device as indicated on the drawings.
- D. Branch Overcurrent Protective Devices: Bolt-on circuit breakers, replaceable without disturbing adjacent units.
- E. Doors: Door-in-door trim, secured with flush latch with tumbler lock; keyed alike.
- F. Column-Type Panelboards: Narrow gutter extension, with cover, to overhead junction box equipped with ground and neutral terminal buses.

2.4 DISCONNECTING AND OVERCURRENT PROTECTIVE DEVICES

- A. Manufacturers: Subject to compliance with requirements. Manufacturers offering products that may be incorporated into the Work include the following:
 - 1. Eaton Electrical Inc.; Cutler-Hammer Business Unit.
 - 2. General Electric Company; GE Consumer & Industrial - Electrical Distribution.
 - 3. Siemens Energy & Automation, Inc.
 - 4. Square D; a brand of Schneider Electric.
 - 5. Or approved equal.
- B. Molded-Case Circuit Breaker (MCCB): Comply with UL 489, with interrupting capacity to meet available fault currents.
 - 1. Thermal-Magnetic Circuit Breakers: Inverse time-current element for low-level overloads, and instantaneous magnetic trip element for short circuits. Adjustable magnetic trip setting for circuit-breaker frame sizes 250 A and larger.



2. Adjustable Instantaneous-Trip Circuit Breakers: Magnetic trip element with front-mounted, field-adjustable trip setting.
3. Current-Limiting Circuit Breakers: Frame sizes 400 A and smaller; let-through ratings less than NEMA FU 1, RK-5.
4. GFCI Circuit Breakers: Single- and two-pole configurations with Class A ground-fault protection (6-mA trip).
5. Arc-Fault Circuit Interrupter (AFCI) Circuit Breakers: Comply with UL 1699; 120/240-V, single-pole configuration.
6. Molded-Case Circuit-Breaker (MCCB) Features and Accessories:
 - a. Standard frame sizes, trip ratings, and number of poles.
 - b. Lugs: Mechanical style, suitable for number, size, trip ratings, and conductor materials.
 - c. Application Listing: Appropriate for application; Type SWD for switching fluorescent lighting loads; Type HID for feeding fluorescent and high-intensity discharge (HID) lighting circuits.
 - d. Ground-Fault Protection: Integrally mounted relay and trip unit with adjustable pickup and time-delay settings, push-to-test feature, and ground-fault indicator.

2.5 PANELBOARD SUPPRESSORS

- A. Manufacturers: Subject to compliance with requirements. Manufacturers offering products that may be incorporated into the Work include the following:
 1. Current Technology; a subsidiary of Danahar Corporation.
 2. Eaton Electrical Inc.; Cutler-Hammer Business Unit.
 3. General Electric Company; GE Consumer & Industrial - Electrical Distribution.
 4. Liebert Corporation.
 5. Siemens Energy & Automation, Inc.
 6. Square D; a brand of Schneider Electric.
 7. Or approved equal
- B. Surge Protection Device: IEEE C62.41-compliant, integrally mounted, solid-state, parallel-connected, non-modular type, with sine-wave tracking suppression and filtering modules, UL 1449, second edition, short-circuit current rating matching or exceeding the panelboard short-circuit rating, and with the following features and accessories:
 1. Accessories:
 - a. LED indicator lights for power and protection status.
 - b. Audible alarm, with silencing switch, to indicate when protection has failed.
 - c. One set of dry contacts rated at 5 A and 250-V ac, for remote monitoring of protection status.

2.6 ACCESSORY COMPONENTS AND FEATURES

- A. Accessory Set: Include tools and miscellaneous items required for overcurrent protective device test, inspection, maintenance, and operation.



PART 3 - EXECUTION

3.1 EXECUTION REQUIREMENTS

- A. Refer to DDC General Conditions for execution requirements.

3.2 EXAMINATION

- A. Examine panelboards before installation. Reject panelboards that are damaged or rusted or have been subjected to water saturation.
- B. Examine elements and surfaces to receive panelboards for compliance with installation tolerances and other conditions affecting performance of the Work.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.3 INSTALLATION

- A. Install panelboards and accessories according to NECA 407.
- B. Temporary Lifting Provisions: Remove temporary lifting eyes, channels, and brackets and temporary blocking of moving parts from panelboards.
- C. Mount top of trim 90 inches above finished floor unless otherwise indicated.
- D. Mount panelboard cabinet plumb and rigid without distortion of box. Mount recessed panelboards with fronts uniformly flush with wall finish and mating with back box.
- E. Install overcurrent protective devices and controllers not already factory installed.
 - 1. Set field-adjustable, circuit-breaker trip ranges.
- F. Install filler plates in unused spaces.
- G. Stub four 1-inch empty conduits from panelboard into accessible ceiling space or space designated to be ceiling space in the future. Stub four 1-inch empty conduits into raised floor space or below slab not on grade.
- H. Arrange conductors in gutters into groups and bundle and wrap with wire ties after completing load balancing.
- I. Comply with NECA 1.

3.4 IDENTIFICATION

- A. Identify field-installed conductors, interconnecting wiring, and components; provide warning signs complying with Section 260553: "Identification for Electrical Systems".



- B. Create a directory to indicate installed circuit loads after balancing panelboard loads; incorporate final room designations. Obtain approval before installing. Use a computer or typewriter to create directory; handwritten directories are not acceptable.
- C. Panelboard Nameplates: Label each panelboard with a nameplate complying with requirements for identification specified in Section 260553: "Identification for Electrical Systems".
- D. Device Nameplates: Label each branch circuit device in distribution panelboards with a nameplate complying with requirements for identification specified in Section 260553: "Identification for Electrical Systems".

3.5 FIELD QUALITY CONTROL

A. Acceptance Testing Preparation:

- 1. Test insulation resistance for each panelboard bus, component, connecting supply, feeder, and control circuit.
- 2. Test continuity of each circuit.

B. Tests and Inspections:

- 1. Perform each visual and mechanical inspection and electrical test stated in NETA Acceptance Testing Specification. Certify compliance with test parameters.
- 2. Correct malfunctioning units on-site, where possible, and retest to demonstrate compliance; otherwise, replace with new units and retest.

C. Panelboards will be considered defective if they do not pass tests and inspections.

D. Prepare test and inspection reports, including a certified report that identifies panelboards included and that describes scanning results. Include notation of deficiencies detected, remedial action taken, and observations after remedial action.

3.6 ADJUSTING

A. Adjust moving parts and operable component to function smoothly and lubricate as recommended by manufacturer.

B. Load Balancing: After Substantial Completion, but not more than 60 days after Final Acceptance, measure load balancing and make circuit changes.

- 1. Measure as directed during period of normal system loading.
- 2. Perform load-balancing circuit changes outside normal occupancy/working schedule of the facility and at time directed. Avoid disrupting critical 24-hour services such as fax machines and on-line data processing, computing, transmitting, and receiving equipment.
- 3. After circuit changes, recheck loads during normal load period. Record all load readings before and after changes and submit test records.
- 4. Tolerance: Difference exceeding 20 percent between phase loads, within a panelboard, is not acceptable. Rebalance and recheck as necessary to meet this minimum requirement.

END OF SECTION 26 24 16



SECTION 26 28 13 - FUSES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The following documents apply to all required work for the Project: (1) the Contract Drawings, (2) the Specifications, (3) the General Conditions, (4) the Addendum and (5) the Contract (City of New York Standard Construction Contract).

1.2 SUMMARY

- A. This Section includes the following:
1. Cartridge fuses rated 600 V and less for use in switches and panelboards.
 2. Spare-fuse cabinets.

1.3 SUBMITTAL PROCEDURES

- A. Refer to DDC General Conditions Section 01 33 00 "Submittal Procedures".

1.4 SUBMITTALS

- A. Product Data: Include the following for each fuse type indicated:
1. Dimensions and manufacturer's technical data on features, performance, electrical characteristics, and ratings.
 2. Let-through current curves for fuses with current-limiting characteristics.
 3. Time-current curves, coordination charts and tables, and related data.
- B. Ambient Temperature Adjustment Information: If ratings of fuses have been adjusted to accommodate ambient temperatures, provide list of fuses with adjusted ratings.
1. For each fuse having adjusted ratings, include location of fuse, original fuse rating, local ambient temperature, and adjusted fuse rating.
 2. Provide manufacturer's technical data on which ambient temperature adjustment calculations are based.
- C. Operation and Maintenance Data: For fuses to include in emergency, operation, and maintenance manuals.
1. In addition to items specified in DDC General Conditions, include the following:
 - a. Let-through current curves for fuses with current-limiting characteristics.
 - b. Time-current curves, coordination charts and tables, and related data.
 - c. Ambient temperature adjustment information.



1.5 QUALITY ASSURANCE

- A. Refer to DDC General Conditions Section 01 40 00 "Quality Requirements".
- B. Source Limitations: Obtain fuses from a single manufacturer.
- C. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100.
- D. Comply with NEMA FU 1.
- E. Comply with NFPA 70.

1.6 PROJECT CONDITIONS

- A. Where ambient temperature to which fuses are directly exposed is less than 40 deg F or more than 100 deg F apply manufacturer's ambient temperature adjustment factors to fuse ratings.

1.7 COORDINATION

- A. Coordinate fuse ratings with utilization equipment nameplate limitations of maximum fuse size.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - 1. Cooper Bussman, Inc.
 - 2. Eagle Electric Mfg. Co., Inc.; Cooper Industries, Inc.
 - 3. Ferraz Shawmut, Inc.
 - 4. Or approved equal.

2.2 CARTRIDGE FUSES

- A. Characteristics: NEMA FU 1, nonrenewable cartridge fuse; class and current rating indicated; voltage rating consistent with circuit voltage.

2.3 FUSE CABINET

- A. Cabinet: Wall-mounted, 0.05-inch- thick steel unit with full-length, recessed piano-hinged door and key-coded cam lock and pull.
 - 1. Size: Adequate for storage of spare fuses specified with 15 percent spare capacity minimum.
 - 2. Finish: Gray, baked enamel.
 - 3. Identification: "SPARE FUSES" in 1-1/2-inch- high letters on exterior of door.



4. Fuse Pullers: For each size of fuse.

PART 3 - EXECUTION

3.1 EXECUTION REQUIREMENTS

- A. Refer to DDC General Conditions for execution requirements

3.2 EXAMINATION

- A. Examine utilization equipment nameplates and installation instructions. Install fuses of sizes and with characteristics appropriate for each piece of equipment.
- B. Evaluate ambient temperatures to determine if fuse rating adjustment factors must be applied to fuse ratings.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.3 FUSE APPLICATIONS

- A. Service Entrance: Class RK1, fast acting.
- B. Feeders: Class RK1, fast acting
- C. Residential metering, in pull-outs: Class T, fast acting.
- D. Other Branch Circuits: Class RK1, time delay.

3.4 INSTALLATION

- A. Install fuses in fusible devices. Arrange fuses so rating information is readable without removing fuse.
- B. Install spare-fuse cabinet.

3.5 IDENTIFICATION

- A. Install labels indicating fuse replacement information on inside door of each fused switch.

END OF SECTION 26 28 13



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SECTION 26 28 16 - ENCLOSED SWITCHES AND CIRCUIT BREAKERS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The following documents apply to all required work for the Project: (1) the Contract Drawings, (2) the Specifications, (3) the General Conditions, (4) the Addendum and (5) the Contract (City of New York Standard Construction Contract).

1.2 SUMMARY

- A. This Section includes the following individually mounted, enclosed switches and circuit breakers:
 - 1. Fusible switches.
 - 2. Bolted-pressure contact switches.
 - 3. Enclosures.

1.3 DEFINITIONS

- A. GD: General duty.
- B. GFCI: Ground-fault circuit interrupter.
- C. HD: Heavy duty.
- D. SPDT: Single pole, double throw.

1.4 SUBMITTAL PROCEDURES

- A. Refer to DDC General Conditions Section 01 33 00 "Submittal Procedures".

1.5 SUBMITTALS

- A. Product Data: For each type of enclosed switch, circuit breaker, accessory, and component indicated. Include dimensioned elevations, sections, weights, and manufacturers' technical data on features, performance, electrical characteristics, ratings, and finishes.
 - 1. Enclosure types and details for types other than NEMA 250, Type 1.
 - 2. Current and voltage ratings.
 - 3. Short-circuit current rating.
 - 4. UL listing for series rating of installed devices.
 - 5. Features, characteristics, ratings, and factory settings of individual overcurrent protective devices and auxiliary components.



- B. Shop Drawings: Diagram power, signal, and control wiring.
- C. Field quality-control test reports including the following:
 - 1. Test results that comply with requirements.
 - 2. Results of failed tests and corrective action taken to achieve test results that comply with requirements.
- D. Manufacturer's field service report.
- E. Operation and Maintenance Data: For enclosed switches and circuit breakers to include in emergency, operation, and maintenance manuals. In addition to items specified in General Conditions, include the following:
 - 1. Manufacturer's written instructions for testing and adjusting enclosed switches and circuit breakers.

1.6 QUALITY ASSURANCE

- A. Refer to DDC General Conditions Section 01 40 00 "Quality Requirements".
- B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100.
- C. Comply with NFPA 70.
- D. Product Selection for Restricted Space: Drawings indicate maximum dimensions for enclosed switches and circuit breakers, including clearances between enclosures, and adjacent surfaces and other items. Comply with indicated maximum dimensions.

1.7 PROJECT CONDITIONS

- A. Specify unusual environmental or service conditions here. For equipment installed outdoors, indicate maximum and minimum ambient temperature and expected humidity range.
- B. Environmental Limitations: Rate equipment for continuous operation under the following conditions, unless otherwise indicated:
 - 1. Ambient Temperature: Not less than minus 22 deg F and not exceeding 104 deg F.
 - 2. Altitude: Not exceeding 6600 feet.

1.8 COORDINATION

- A. Edit this Article to delete or add types of construction and encumbrances that affect switch and circuit-breaker installation.
- B. Coordinate layout and installation of switches, circuit breakers, and components with other construction, including conduit, piping, equipment, and adjacent surfaces. Maintain required workspace clearances and required clearances for equipment access doors and panels.



PART 2 - PRODUCTS

2.1 FUSIBLE AND NONFUSIBLE SWITCHES

- A. Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include manufacturers specified.
 - 1. Eaton Corporation; Cutler-Hammer Products.
 - 2. General Electric Co.; Electrical Distribution & Control Division.
 - 3. Siemens Energy & Automation, Inc.
 - 4. Square D/Group Schneider.
 - 5. Or approved equal.
- B. Fusible Switch, 600 A and Smaller: NEMA KS 1, Type HD, with clips or bolt pads to accommodate specified fuses, lockable handle with capability to accept two padlocks, and interlocked with cover in closed position.
- C. Accessories:
 - 1. Equipment Ground Kit: Internally mounted and labeled for copper and aluminum ground conductors.
 - 2. Neutral Kit: Internally mounted; insulated, capable of being grounded, and bonded; and labeled for copper and aluminum neutral conductors.

2.2 ENCLOSURES

- A. NEMA AB 1 and NEMA KS 1 to meet environmental conditions of installed location.
 - 1. Outdoor Locations: NEMA 250, Type 3R.

PART 3 - EXECUTION

3.1 EXECUTION REQUIREMENTS

- A. Refer to DDC General Conditions for execution requirements.

3.2 EXAMINATION

- A. Examine elements and surfaces to receive enclosed switches and circuit breakers for compliance with installation tolerances and other conditions affecting performance.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.3 CONCRETE BASES

- A. Coordinate size and location of concrete bases. Verify structural requirements with Commissioner.



- B. Provide concrete bases for floor mounted equipment as specified in Section 260501: "Basic Electrical Materials and Methods."

3.4 INSTALLATION

- A. Comply with applicable portions of NECA 1, NEMA PB 1.1, and NEMA PB 2.1 for installation of enclosed switches and circuit breakers.
- B. Mount individual wall-mounting switches and circuit breakers with tops at uniform height, unless otherwise indicated. Anchor floor-mounting switches to concrete base.
- C. Temporary Lifting Provisions: Remove temporary lifting eyes, channels, and brackets and temporary blocking of moving parts from enclosures and components.

3.5 IDENTIFICATION

- A. Identify field-installed conductors, interconnecting wiring, and components; provide warning signs as specified in Section 260553: "Identification for Electrical Systems".
- B. Enclosure Nameplates: Label each enclosure with engraved metal or laminated-plastic nameplate as specified in Section 260553: "Identification for Electrical Systems"

3.6 FIELD QUALITY CONTROL

- A. Prepare for acceptance testing as follows:
 - 1. Inspect mechanical and electrical connections.
 - 2. Verify switch and labeling verification.
 - 3. Verify rating of installed fuses.
 - 4. Inspect proper installation of type, size, quantity, and arrangement of mounting or anchorage devices complying with manufacturer's certification.
- B. Perform the following field tests and inspections and prepare test reports:
 - 1. Perform each electrical test and visual and mechanical inspection stated in NETA ATS, Section 7.5 for switches. Certify compliance with test parameters.
 - 2. Correct malfunctioning units on-site, where possible, and retest to demonstrate compliance; otherwise, replace with new units and retest.

3.7 CLEANING AND ADJUSTING

- A. On completion of installation, vacuum dirt and debris from interiors; do not use compressed air to assist in cleaning. Inspect exposed surfaces and repair damaged finishes.

END OF SECTION 26 28 16



SECTION 28 31 11 - ADDRESSABLE FIRE-ALARM SYSTEM

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The following documents apply to all required work for the Project: (1) the Contract Drawings, (2) the Specifications, (3) the General Conditions, (4) the Addendum and (5) the Contract (City of New York Standard Construction Contract).

1.2 SUBMITTAL PROCEDURES

- A. Refer to DDC General Conditions Section 01 33 00 "Submittal Procedures".

1.3 SUBMITTALS

- A. Prior to start of this Work, the Contractor shall submit the following material for review by the Authority's Representative.

1. Provide a list (bill of materials) of all equipment and components to be used in the system.
2. Provide manufacturer's printed product data, catalog pages and descriptions of any special installation procedures. Include a full listing of all MEA Approval Numbers on all products and components.
 - a. Data from the Company producing the system, proving that:
 - b. Fire detection devices that receive their power from the initiating circuit of a fire alarm control unit are listed for use with the control unit.
 - c. The batteries proposed for use are compatible with the battery charger.
3. Provide Shop Drawings as follows:
 - a. Large scale drawing, including actual dimensions, of the fire alarm control panel(s) (FACP), and all ancillary equipment.
4. Provide a schedule, for review and approval of the proposed label for each auxiliary control switch and color for each LED/Lamp indicator for the Smoke Purge Panel.
5. Provide a schedule, for review and approval, of the proposed label and color for each LED/lamp indicator at the remote annunciator.
6. Provide samples of equipment as requested.
7. Certificate of compliance with the Quality Assurance and Maintenance requirements.
8. Warranty.
9. Bureau of Fire Prevention of the New York City Fire Department certificate of approval.
10. Test results and certificate of completion of testing.



1.4 QUALITY ASSURANCE

A. Refer to DDC General Conditions Section 01 40 00 "Quality Requirements".

B. Equipment/System

1. All equipment furnished under these Specifications shall be UL listed and be MEA approved for its intended purpose.
2. The system shall be listed in the UL Fire Protection Equipment Directory under product category "Control Units System (UOJZ)".

C. Manufacturer

1. The manufacturer shall have been engaged in the production of this type of equipment for at least one (1) year and shall have to have a fully equipped service organization within proximity of the installation.

D. Distributor

1. The company providing the material and supervision shall be a factory authorized distributor for the material to be provided.
2. The distributor shall be located within proximity of the project.
3. The distributor shall provide a fully factory trained and authorized repair and service organization capable of providing on-site supervision throughout the project.
4. The distributor shall provide all technical support required for an operational system. All service technicians shall be NICET Level 2 certified, factory certified, and possess a Fire Department Certificate of Fitness per Rule 6 of the Fire Prevention Code.
5. The distributor shall provide all engineering support required to provide professional supervision and installation support. The distributor shall have at least one engineering staff member who is NICET certified, factory certified, and possess a Fire Department Certificate of Fitness per the Fire Prevention Code.

E. Company Field Advisor

1. Secure the services of a Company Field Advisor for a minimum of 16 working hours for the following:
 - a. Render advice regarding the installation and final adjustment of the system.
 - b. Render advice on the suitability of each signal-initiating device for its particular application.
 - c. Witness final system tests and then certify with an affidavit that the system is installed in accordance with the Contract Documents and is operating properly.
 - d. Train facility personnel in operation, programming, and routine maintenance of the system (minimum of 4 hours).
 - e. Explain available service programs to facility supervisory personnel for their consideration.



1.5 WARRANTY

- A. Special Warranty: Written warranty, executed by manufacturer agreeing to repair or replace materials or workmanship for a period of one (1) year from the date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Basis-of-Design Product: Subject to compliance with requirements, provide Smoke Detectors, Horn Strobe, and Alarm Interface module by Simplex, to ensure compatibility with existing building Fire Alarm Control panel; or comparable product by one of the following:
 - 1. EST.
 - 2. EDWARDS
 - 3. Or approved equal

2.2 EQUIPMENT

A. General

- 1. The following equipment where shown on the Drawings or called for in the Specifications shall be furnished and installed by the Contractor at locations where shown on the Drawings or directed.

B. Area Type Smoke Detectors

- 1. The Contractor shall provide intelligent analog addressable photoelectric smoke detectors with bases at locations shown on the Drawings or called for in the Specifications. Analog addressable ionization smoke detectors shall be provided for the elevator lobby.
- 2. Smoke detectors shall operate on 24V D.C. received from the Fire Signal Control panel. Smoke detectors shall be analog type supervised by that panel for sensitivity rating within acceptable thresholds. Deviations shall be annunciated at the control panel & remote locations.
- 3. Where area smoke detectors are located on ceilings of corridors, stair landings, or vestibules, the Contractor shall provide an approved guard around each smoke detector. This guard shall be separately mounted to the ceiling with at least four mounting points and shall be UL cross listed for use with the smoke detector.
- 4. All smoke detectors shall be supplied with an L.E.D. Indicator lamp which shall give indication that the smoke detector is active (flash) and latch (on steady) when the detector has tripped into alarm.
- 5. Area type photoelectric smoke detector and Elevator lobby ionization type smoke detector shall be as it is indicated in Article 2.1A.



C. Alarm Interface Modules

1. Alarm interface Modules shall interface normally open contacts of water flow, tamper, and other supervisory devices to the addressable system.
2. Each Interface Module shall provide selector switches to set an individual address to identify the module to the fire alarm control panel. These switches shall be field adjustable. Interface Modules that require an external programmer or prom burner shall not be acceptable.
3. Alarm Interface module shall be as it is indicated in Article 2.1A.

D. Control Relay Interface Module

1. Each Interface Module shall provide selector switches to set an individual address to identify the module to the fire alarm control panel. These switches shall be field adjustable. Interface Modules that require an external programmer or prom burner shall not be acceptable.

2.3 MARKERS AND RISER

A. Markers

1. Premarked self-adhesive; W.H. Brady Co.'s B940, Thomas and Betts Co.'s E-Z Code WSL self-laminating, Ideal Industries' Mylar/Cloth wire markers, or Markwick Corp.'s permanent wire markers, or approved equal.

B. Riser

1. Contractor shall provide a readable riser diagram in a frame with glass cover. Riser shall be mounted where indicated by the Commissioner and properly secured to the wall. All Fire Alarm devices shall be clearly indicated on riser diagram.

PART 3 - EXECUTION

3.1 EXECUTION REQUIREMENTS

- A.** Refer to DDC General Conditions for execution requirements.

3.2 DESCRIPTION OF WORK

- A.** The Work shall include all labor, equipment, materials, and necessary services to provide a complete addressable fire alarm from the elevator to the Fire Alarm Control Panel (FACP). The system shall work in an addressable way. The system shall consist of, but not be limited to, the following:
1. Area smoke detectors, previous testing of existing devices. If it is necessary, they must be replaced.
 2. Fuse cutout in electric room.
 3. Battery Backup.
 4. Recall interphase if it is necessary



3.3 APPLICABLE LISTINGS, CODES AND STANDARDS

- A. All equipment shall be UL listed for its intended use.
- B. All wiring shall be installed as per Chapter 4000-06 of the NYC Building Code and in raceways as described in section 260533.
- C. NFPA (National Fire Protection Association) Standards 72.
- D. NFPA Standard 13, when used with sprinkler systems.
- E. The New York City Building Code.
- F. The New York City MEA legacy approved testing agencies.
- G. NYC Fire Department, Bureau of Fire Prevention, Office of Technology Management.
- H. The New York City Fire Department Rules & Regulations.

3.4 RELATED WORK

- A. The Subcontractor shall coordinate the work in this Section with all related trades. Work and/or equipment provided in other Sections and related to the fire alarm system shall include,
 - 1. Air handling systems fan and damper control circuits shall be furnished by the air handling system's control equipment. See Division 23. Interconnecting wiring to the Fire Alarm System shall be provided by this subcontractor.

3.5 SYSTEM DESCRIPTION

- A. The system shall perform as described below. All equipment, components, and labor required shall be provided by the subcontractor, related to the scope of this work:
- B. Fire Detection
 - 1. Fire detection shall be accomplished by:
 - a. Operation of Area Type Smoke Detector.
- C. Alarm Indication
 - 1. Activation of any smoke detector sound four rounds of temporal 3 signal and shall indicate active device on fire alarm control.
- D. Miscellaneous Operations
 - 1. Operation of any automatic fire detection device shall shut down all fans controlled



- by smoke detectors, all fire/smoke dampers and purge dampers and release magnetic door holders.
2. Operation of the sprinkler water flow switch, the fire alarm control panel shall also activate the elevator recall system.
 3. Operation of any fire detection device shall be recorded individually at the printer, the control panel, and it shall be indicated at the remote annunciator.

3.6 INSTALLATION

- A. The entire system shall be installed in a workmanlike manner, in accordance with approved manufacturers' wiring diagram. The subcontractor shall provide all conduit, wiring, outlet boxes, junction boxes, cabinet's and similar devices necessary for the complete installation.
- B. All penetrations of floor slabs and fire walls shall be fire stopped in accordance with NYC Fire Code
- C. End of Line Devices (Resistors/Diodes/Capacitors) Shall be provided as required for mounting as directed by the manufacturer.
- D. All wiring shall be color coded throughout, to New York City Electrical Code standards and a minimum of No. 14 AWG. unless otherwise noted. All wiring shall be of the type recommended by the manufacturer, approved by the Fire Department.
 1. The Fire Alarm Cable, which shall include Data, Addressable Loop, and signaling wire 8ft. above the finished floor, shall meet the following requirements:
 - a. A minimum temperature rating of 150°C
 - a. A minimum average insulation thickness of 15 mils
 - b. A minimum average jacket thickness of 25 mils
 - c. The color of the cable shall be red
 - d. The cable shall be a type FPLP (plenum type)
 - e. The cable shall be visibly marked externally that it meets the above requirements and is listed by UL.
- E. Circuits from the fire alarm control panel to the system peripheral equipment shall be a minimum of as follows:
 1. Each alarm initiating or supervisory circuit: Two (2) No. 14 AWG conductors
 2. Each alarm signaling/indicating circuit: Two (2) No. 12 AWG conductors.
 3. Each control circuit: Two (2) No. 14 AWG conductors.
- F. Identification, Labeling, Marking
 1. Procedure Sign: Install adjacent to FACP and remote annunciator.
 2. Zone Locator: Install adjacent to FACP and remote annunciator.
 3. Power-Limited Circuits: Mark circuits at terminations, indicating that circuit is a power-limited fire protective signaling circuit.



4. Labeling Circuit Disconnects: Label the device used as the circuit disconnecting means for the dedicated branch circuits serving the system "FIRE ALARM CIRCUIT CONTROL."
 5. Identification of Circuits: Identify wires and cables in interconnection cabinets, and FACP with premarked, self-adhesive, wraparound type markers. Designations shall correspond with point-to-point wiring diagrams.
 6. Battery Data: Insert a copy of the battery warranty in each battery compartment and mark on batteries the date placed in service.
 7. Fire alarm system terminal and junction locations shall be identified in accordance with NFPA Standard 70, Section 760-3. Terminal and junction boxes shall be painted red.
- G. The system shall be arranged to receive power from 120 volt, 60-cycle alternating current supply through a fuse cutout. All low voltage operation shall be provided from the fire alarm control panel(s).
- H. All final connections shall be made under the supervision of a trained manufacturer's technical representative.
- I. Do not install smoke detector until the Work (including cleaning) of all trades in the area has been completed. Protect installed smoke detectors from airborne dust and debris with covers provided by the manufacturer for this purpose.
- J. The Contractor shall arrange for the sheet metal trades to drill holes in the ductwork for mounting the smoke detectors and its sampling tubes. That trade shall perform the actual mounting of these items on and within the ductwork. The duct detectors shall be wired and connected to the Fire Alarm System by the Electrical trade.
- K. Guards
1. Attach guards directly to the surface with vandal resistant fasteners.
 2. Use finishing collar between ceiling and vandal guard where vandal guard cannot be mounted tight against ceiling due to job conditions.

3.7 TESTS

- A. Prior to the final acceptance test, the contractor and a trained manufacturer's technical representative shall test the completed system for proper operation in the presence of the Commissioner. The entire system shall be demonstrated to perform all the functions as below listed in these Specifications. Any system, equipment device or wiring failure discovered during said test shall be repaired or replaced before requesting scheduling of the final acceptance test. All repairs shall be retested in the presence of the Commissioner prior to the final acceptance test.
- B. File A-433 (Application for Electrical Inspection and Summary of Contract Equipment to be installed) with the Bureau of Fire Prevention of the New York City Fire Department, in preparation for the final tests of the system.
- C. Upon completion of above, perform final acceptance in the presence of the Commissioner,



the Inspector from the Bureau of Fire Prevention, Subcontractor's representative, and the Manufacturer's representative. Notify the Commissioner at least 3 working days prior to the test so arrangements can be made to have a facility representative witness the test.

D. During the tests indicated above and during the final acceptance test:

1. Every manual fire alarm station shall be tested.
2. Every smoke detector shall be tested.
3. The sprinkler system waterflow alarm switches shall be tested by flowing water. The sprinkler system valve tamper switches shall be tested by closing sprinkler valves. On dry type sprinkler systems, the air pressure shall be measured.
4. Every audible alarm signaling device shall be sounded.
5. Every visual alarm signaling device shall be lighted or flashed.
6. Every system control function shall be tested for its proper operation, including fan shutdown, smoke purge and elevator recall.
7. All circuits shall be opened at two (2) locations to test for proper supervision.
8. All other tests which the inspector from the Bureau of FDNY Fire Prevention shall request.

E. If any of the tests shall fail to indicate proper operation or if the Fire Department inspector issues a list of faults or objections to the system, the Subcontractor shall immediately correct all faults and improper functioning as part of his Contract obligation. He shall furnish and install all labor and materials that is necessary to accomplish this. The Subcontractor shall then reschedule the final acceptance test, file a new A-433 form, and redo all tests until the system is accepted without qualification.

F. Upon successful completion of all final acceptance tests, the Subcontractor and Manufacturer's representative shall co-sign letters attesting to the completion of testing and forward two (2) copies of said letters to the Commissioner, the FDNY Bureau of Fire Prevention, Contractor's representative, and the Manufacturer's representative.

G. All final acceptance testing shall be done at a time convenient to the Bureau of Fire Prevention official and the Commissioner and all testing costs shall be borne by the Contractor as part of this Contract.

3.8 CLOSEOUT DOCUMENTATION AND INSTRUCTION

A. Compile and provide to the Commissioner, manuals on the finished system to include operating and maintenance instructions, manufacturer's catalog pages of all equipment and components, all as-built wiring diagrams (both floor plan and riser types) and a manufacturer's suggested spare parts list.

B. Provide Sensitivity Reports for all smoke detectors (Ionization and photoelectric types).

END OF SECTION 283111

FMS ID: **PV040ELEV**



**Department of
Design and
Construction**

**THE CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF PUBLIC BUILDINGS**

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TELEPHONE (718) 391-1000 WEBSITE www.nyc.gov/buildnyc

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Flushing Town Hall - Elevator Modernization

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BOROUGH: Queens, NY 11355
CITY OF NEW YORK

Contractor _____

Dated _____, 20____

Entered in the Comptroller's Office _____

First Assistant Bookkeeper _____

Dated _____, 20____

